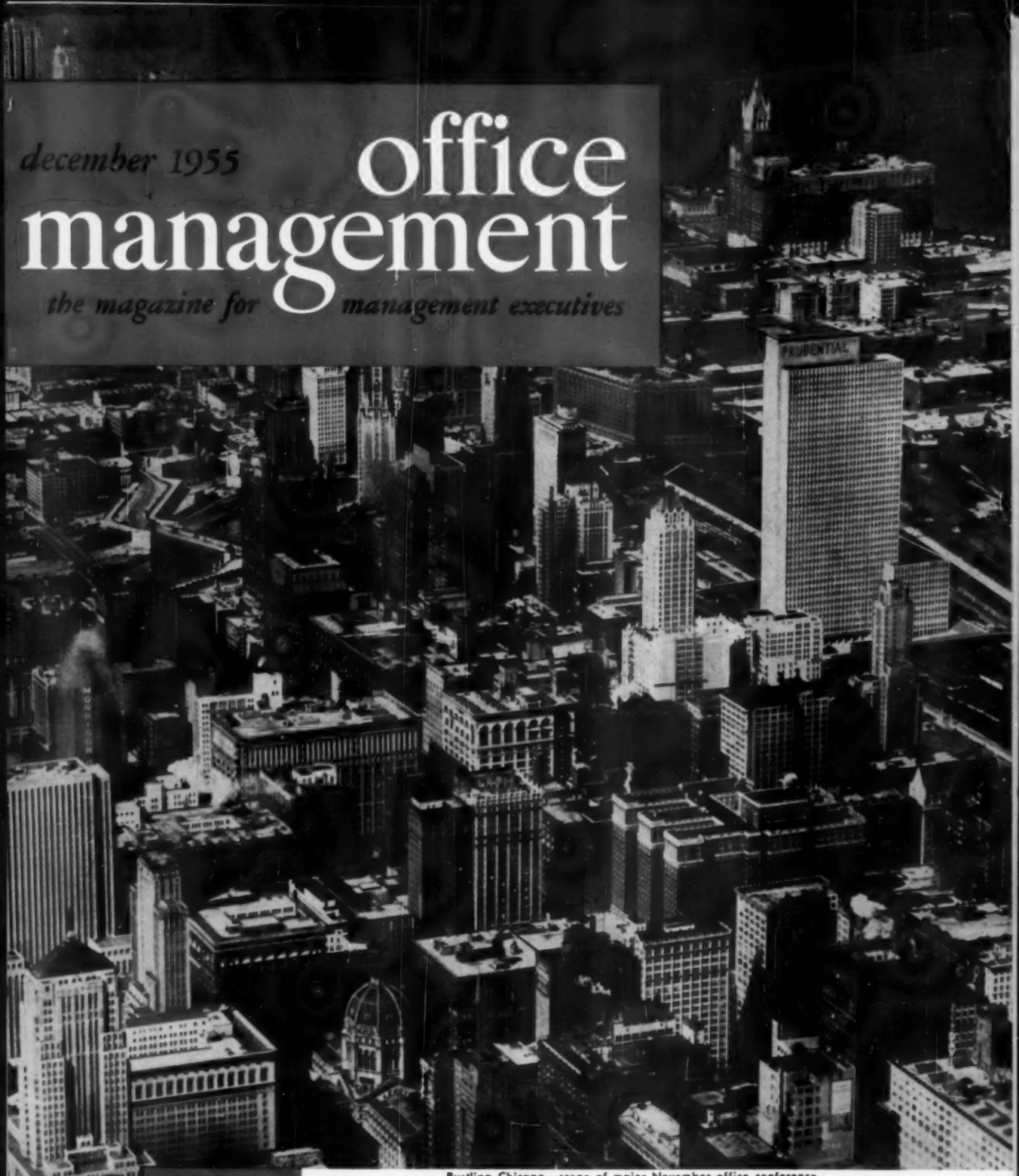
december 1955

office management

the magazine for management executives



Bustling Chicago—scene of major November office conference

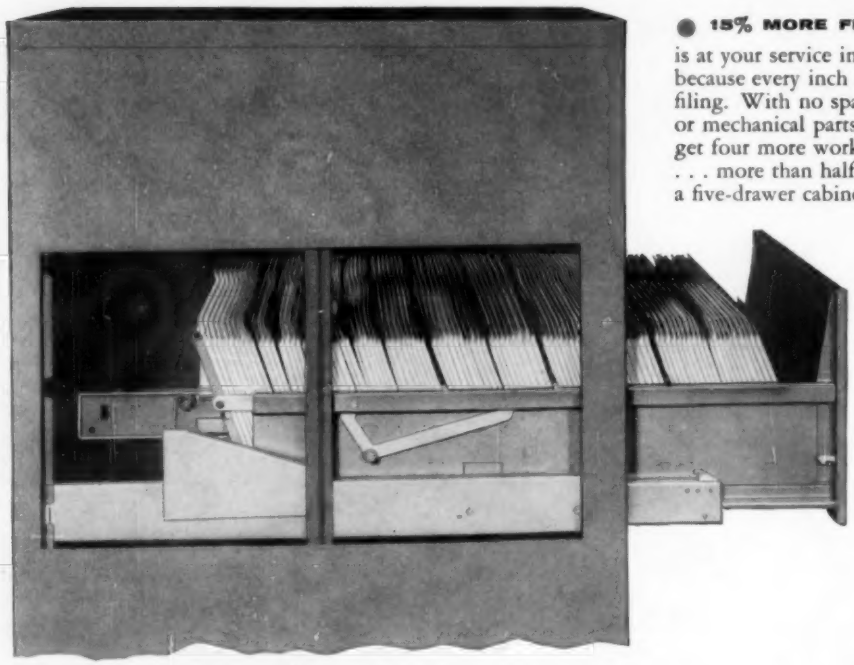
IN THIS ISSUE

- First office automation conference for senior officers sponsored by University of Chicago—Full report
- First pictures of 1955 "Office of the Year" winners

In an Art Metal SPEED-FILE

● **ONE SIMPLE MOTION** *opens any drawer*
while contents slope back automatically

● **THE EXCLUSIVE EXPANSION BACK** in Art Metal Speed-Files puts file folders into normal working position as soon as a drawer is opened. No compressors to release and re-set. A third of the operations required with conventional files are eliminated . . . filing is 33% faster!



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Rugged all-welded drawer body
Built for extra years of hard day-to-day use. No extraneous parts — no maintenance.

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Smooth, quiet operation
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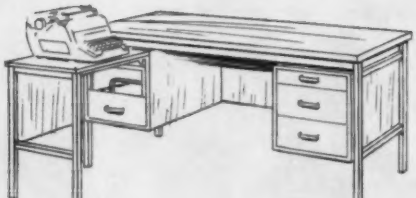

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office management

Office Methods, Equipment, Personnel, and Purchasing
Sponsor of the "Office of the Year" Awards

december, 1955
Vol. XVI No. 12

CHICAGO, the nation's second city, plays a prominent role in this issue for two reasons. The Windy City is the locale for the two top winners in this year's "Office of the Year" competition —the first time that any city other than New York has ever captured both honors. The lakeside metropolis was also the scene last month of a conference on office automation that was unusually significant for many reasons. Full details of the conference appear in the story beginning on page 18; commentary on why we feel the Chicago meeting was meaningful appears on page 15.

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M. A. Geyer, President; Donald McAllister, Vice-President and General Manager; Thomas V. Murphy, Editor-in-chief; Hugh Ward, Advertising Director; John M. Smythe, Midwest Manager.

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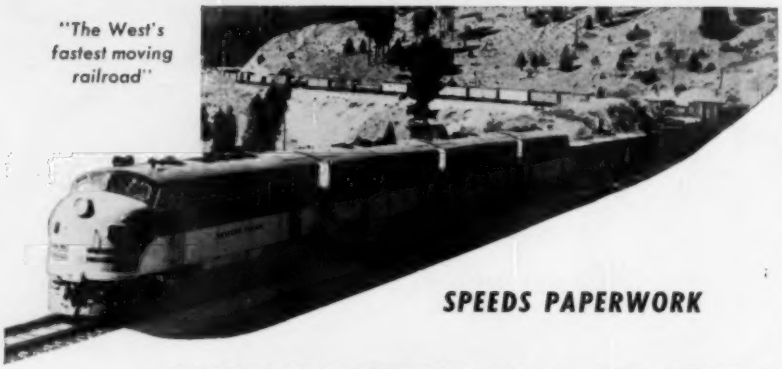

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Certified secretaries now number 772

A new national total of 772 Certified Professional Secretaries was announced recently by the National Secretaries Association (International). This new high was reached when 190 secretaries throughout the United States passed the recently held fifth annual CPS examination. One man was among those who passed, bringing the total of male CPS holders in the country to three. States with highest number of secretaries passing the 1955 test are—California, Texas, Ohio, New York, Michigan, Tennessee.

The Association also reports a back-to-school movement among employed secretaries which it attributes to the CPS program.

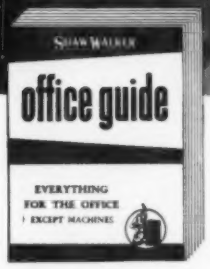
The next CPS examination will be held May 4 and 5, 1956. Deadline for sending in applications is December 15, 1955. Inquiries and applications go to The National Secretaries Association (International), 25 East 12th Street, Kansas City, Missouri.

Opened to qualified secretaries twenty-five years of age or over, members or non-members of The National Secretaries Association, the 12-hour certifying examination is held in colleges and universities throughout the country. It extends over two days. Questions run the gamut from Personal Adjustment and Human Relations through Business Law, Economics and Business Administration, Secretarial Accounting, Stenography, General Secretarial and Office Procedures. To achieve the CPS rating and Certificate secretaries must pass all parts of the test.

In Short—

MIT schedules electronic data processing seminar

The influence of electronic data processing on management will be examined at a special five-day seminar to be given at the Massachusetts Institute of Technology, Dec. 12-16, under the sponsorship of M.I.T.'s School of Industrial Management. The objectives of the program are "to appraise the characteristics and techniques of electronic data processing systems relevant to business management and to study recent developments in both local and long-distance data processing that are of special importance to management."



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Savings begin *immediately* when you get this book. From its 292 pages you can make a buying "tour" in minutes that otherwise would take hours of time and energy and would be impossible even in large cities. Here is the world's most extensive line of office desks, chairs, filing cabinets, fireproof equipment and systems. Over *5,000 items* pictured, described and plainly priced.

Cut office costs.—Office costs skyrocketing? Overhead cutting into your profits? On page 284 you'll find help. Handily indexed for quick reference are a dozen practical ideas you can *put to action right away in cutting office costs.*

What's new in color-styled offices?—Drab, colorless offices affect employee morale. In the Shaw-Walker Office Guide you'll see the very newest in modern color-styled furniture. Beautifully pictured in all four new colors.

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Modernizing? Moving? Expanding?—Your first move should be to get Shaw-Walker's Office Guide. There never was such a complete, colorful, idea-packed encyclopedia of information to help you *plan, save time, save money.*

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National Business Show attracts 93,000

This year's National Business Show drew more visitors than did its 1954 counterpart, according to its sponsors, the Office Executives Association of New York. OEA, which is the New York Chapter of the National Office Management Association, reported that 93,000 visitors attended the displays in the two armories which housed the exhibits. Great interest was shown in machines and equipment that offer the promise of being able to apply the principles of automation to office work in the near future and, as was also the case last year, in copying and duplicating equipment. It has been announced that the 1956 show will be held in the new Coliseum, now being completed at Columbus Circle, New York City.

Remington Rand to market Telecomputing sales control machines

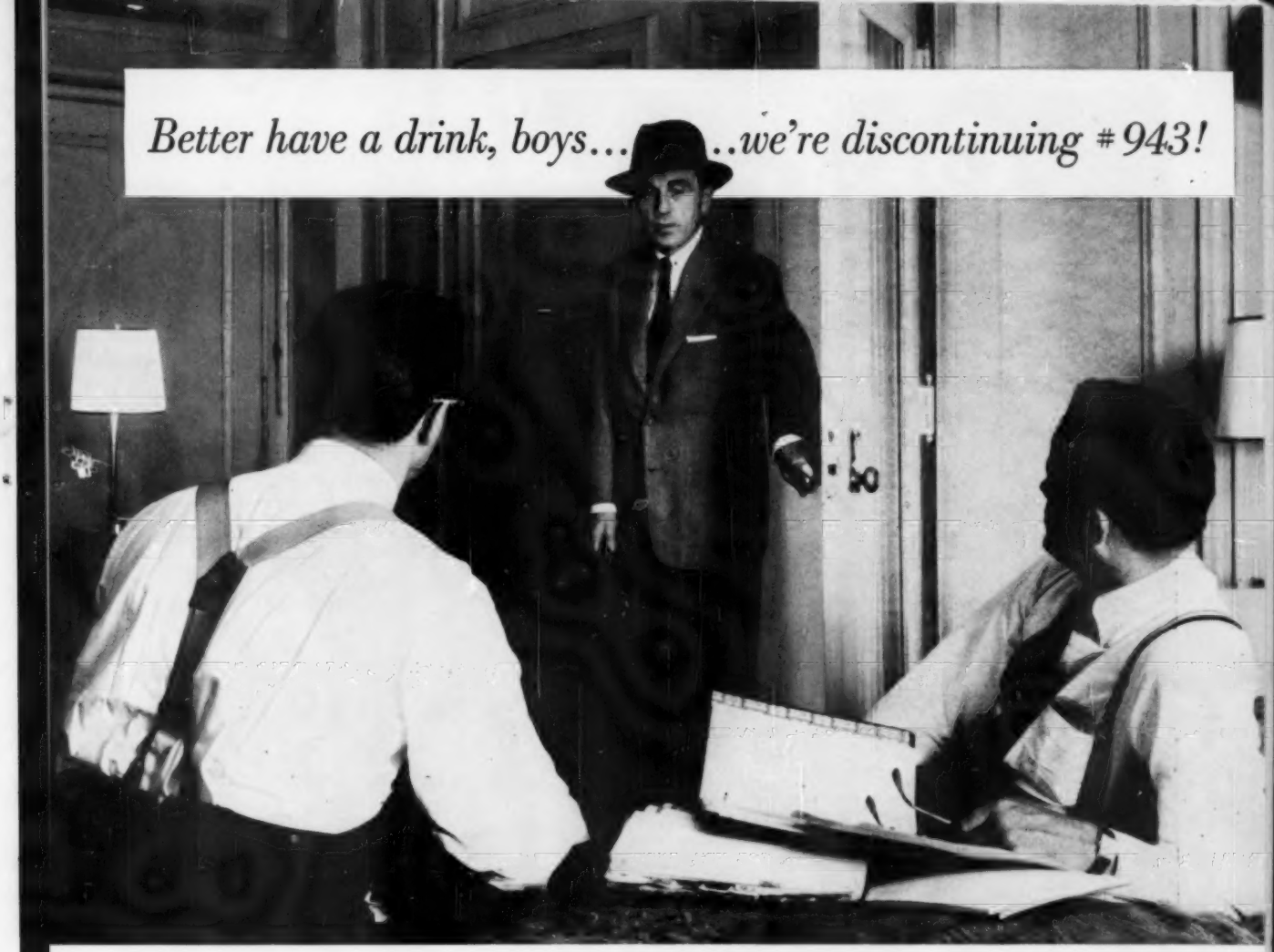
The Point O' Sale Recorder, which is used to transfer sales information from prepunched merchandise tags to punched paper tape for use with electronic data processing equipment, will be marketed by Remington Rand, division of Sperry Rand Corp. The equipment will continue to be manufactured by Telecomputing Corp. of Burbank, Calif.

American Management Association moves headquarters

The administrative headquarters of the American Management Association have been moved from 330 W. 42nd St., New York to the Sheraton Astor Hotel, Times Square, New York. AMA's official address is now 1515 Broadway, New York 36, N. Y. The new offices occupy the first and tenth floors and part of the ninth floor of the hotel. The association's educational activities and services will have enlarged office space; in addition, meeting rooms will be provided for courses and seminars.

Executive development program to be given at Texas A & M

The Agricultural and Mechanical College of Texas has announced its fourth annual Executive Development Course, which will be given on the campus from Jan. 29 to Feb. 18. The three-week program will consist of four major sections devoted to administrative practices, accounting and finance, marketing management, and



The salesmen took it pretty hard. The new #943 was a hot item. But the company was losing money on every gross.

Who goofed? No one. Plant burden rates were at fault. Item #943, expensive to produce, had been regularly charged with less than its fair share of overhead. It was priced competitively, but too low for profit. Hobbled by late and inadequate cost reports, the front office found it easier to give up on the product than sweat out a solution.

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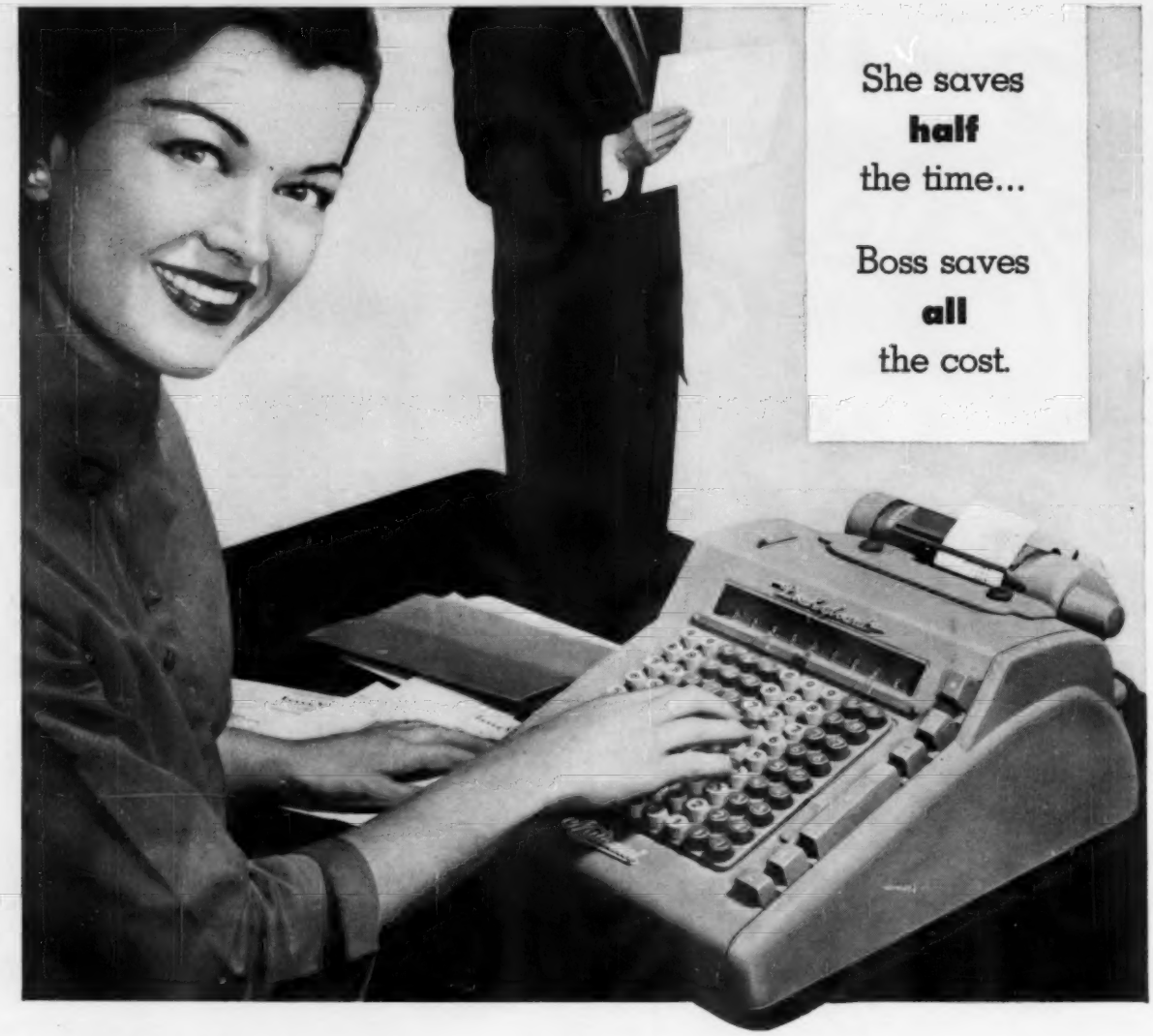

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*Live keyboard** with keytouch adjustable to each operator!

Saves up to 50% hand motion—and effort! Never before have so many time-and-effort-saving features been placed on an adding machine.

Every key operates the motor—so you can now *forget the motor bar.* No more back-and-forth hand motion from keys to motor bar.

Keys are instantly adjustable to *each* operator's touch! No wonder operators are so enthusiastic about it. They do their work faster with up to 50% *less effort.* New operating advantages, quietness, beauty!

"Live" Keyboard with Adjustable Keytouch *plus* 8 other time-saving features combined only on the National Adding Machine: Automatic Clear Signal . . . Subtractions in red . . . Automatic Credit Balance in red . . . Automatic space-up of tape when total prints . . . Large Answer Dials . . . Easy-touch Key Action . . . Full-Visible Keyboard with Automatic Ciphers . . . Rugged-Duty Construction.

A National "De luxe" Adding Machine pays for itself with the time-and-effort it saves, continues savings as yearly profit. One hour a day saved with this new National will, in the average office, repay 100% a year on the investment. See a demonstration, today, on your own work. Call the nearest National branch office or dealer.

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employee selection and development. Its purpose is described as "to broaden the individual viewpoint for a comprehensive understanding of business organization as a whole and its place in the economy of the community, state, and nation."

Expert predicts 12,000,000 jobs in automation

Dr. Elbert P. Little, staff specialist in electronic data processing for Anderson-Nichols Co., of Boston, has predicted that more than 12,000,000 clerical and production-line workers will find jobs connected with automation in the office within the next ten years. Moreover, he said, work weeks would be reduced to 30 hours and pay checks would increase as much as 30 per cent. The jobs will be found in the manufacturing of equipment, in servicing and programming it, and in assembling and preparing data for processing, according to Dr. Little. He added, "Automation is a scare-word to a lot of people, particularly labor. The fact is that those who are most concerned about the thing are the ones who will benefit the most from it."

Conference to discuss use of recorded knowledge

An unusual conference, devoted to "Practical Utilization of Recorded Knowledge — Present and Future" will be held at Western Reserve University, Cleveland, Jan. 16-18. Emphasis will be given to the organization and use of printed material in many fields. The University's School of Library Science and its Center for Documentation and Communication Research are sponsoring the conference.

NOMA announces plans for 1956 convention

The National Office Management Association has officially announced that its 1956 annual convention will be held in Philadelphia, May 20-24, at the Convention Hall Commercial Museum. Concurrently with the convention, NOMA will sponsor an extensive display of modern office machinery and equipment. According to F. F. Robinson, chairman of NOMA's International Conference and Exposition Committee, 50,000 square feet of exhibit space has already been allocated, and requests for one-third of this have already been received.

Atomic Energy Commission to get super-Univac

A new Univac-type computer, reported to be one thousand times faster than electronic computers now in use, has been ordered from the Remington Rand Div., Sperry Rand Corp., for use at the Livermore Research Laboratory of the Atomic Energy Commission. The new computer, to be known as LARC (for Livermore Automatic Research Computer), will be able to work on several problems simultaneously and in three dimensions. It is expected to solve in a few days problems which now require two years of Univac work.

Railway systems men to meet in Chicago this month

The Railway Systems and Procedures Association will meet at the Morrison Hotel, Chicago, December 6-8. Among the subjects to be covered are methods and work simplification, operations research and computers as applied to supply department activities, car accounting with an IBM Type 650 computer, and business planning.

FROM Cramer OF KANSAS CITY . . .

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PRICED TO PLEASE YOUR SENSE OF ECONOMY

Comfortable seating for yourself and your staff, for clients and customers . . . in fresh new design concepts that are pleasing to the eye . . . rigidly constructed for long service, and with easily-removable coverings of elastic U. S. NAUGAHYDE; other fabrics in many colors available. "Wall-saver" side and arm chairs with padded or plastic arm rests, and two handsome swivel models with arms . . . side chairs as low as 31.40, swivels as low as 53.00. Ask to see them today!

FOR COMFORT, bonded foam latex padding; 2" on seat, 1" on back and arm rests.

TON-TESTED! Modern testing showed these chairs still rigid under more than a ton of pressure.

"WALL SAVERS" Backs of side and arm chairs cannot touch wall even when legs do.

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- Office of the Year Awards
- Review of 1955 Calendar of Events

office management

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People in the News

ROBERT G. HELLER has been promoted to the post of general sales office manager, tape and ribbon products group, Minnesota Mining & Mfg. Co., St. Paul.

T. N. TUCKER has been named secretary and treasurer of Cullen Minerals Corp., San Antonio.

ALAN W. DREW, formerly assistant comptroller, Royal Typewriter Co., New York, has been named controller, succeeding *E. T. Quinn* who has resigned to devote more time to his duties as comptroller, Royal McBee Corp.

JAMES F. LILLIS, comptroller, Burroughs Corp., has been elected secretary of the Detroit Control of the Controllers Institute of America.

NELSON W. SPIES has been appointed personnel director of Kodak Office, Eastman Kodak Co., succeeding *W. Douglas Jack*, who died July 30th. He moves up from the post of assistant to the personnel director.

WILLARD K. TARRANT has been named controller of the A. Kimball Co., of New York, consultants in marking systems and manufacturers of marking equipment.

P. E. BEHR has been elected secretary of the Alabama Gas Corp., Birmingham, succeeding the late *R. C. Wirtz*.

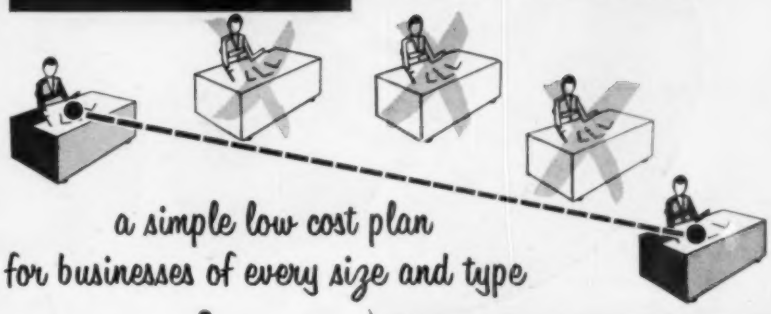
MRS. DOROTHY B. KOSTER has been named personnel director of the Clerical Division in Manpower, Inc's Chicago office, moving from a similar post in the Milwaukee office.

CHARLES M. SKADE has been appointed controller of the American Management Association. Mr. Skade formerly was assistant controller of S. H. Kress & Co.

JOHN F. McGOVERN, comptroller, Gray Mfg. Co., has been elected secretary of the Hartford Control of the Controllers Institute of America.

CLARENCE B. REX has been elected controller of U. S. Industries.

efficiency goes up...
costs come down!
...with LeFebure
SHORT CUT BOOKKEEPING



a simple low cost plan
for businesses of every size and type

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- EASY TO POST—AND EASY TO PROVE
- EVERY CHARGE VERIFIED BY WRITTEN RECORD.
- COMPLETE ACCOUNT RECORDS IN ONE PLACE.
- CAN PROVIDE DUPLICATE COPIES FOR SECURITY.
- BETTER BUSINESS RELATIONS

simplicity...
speed...
economy...
they go hand in hand!

the plan makes it practical...
LeFebure equipment makes it profitable

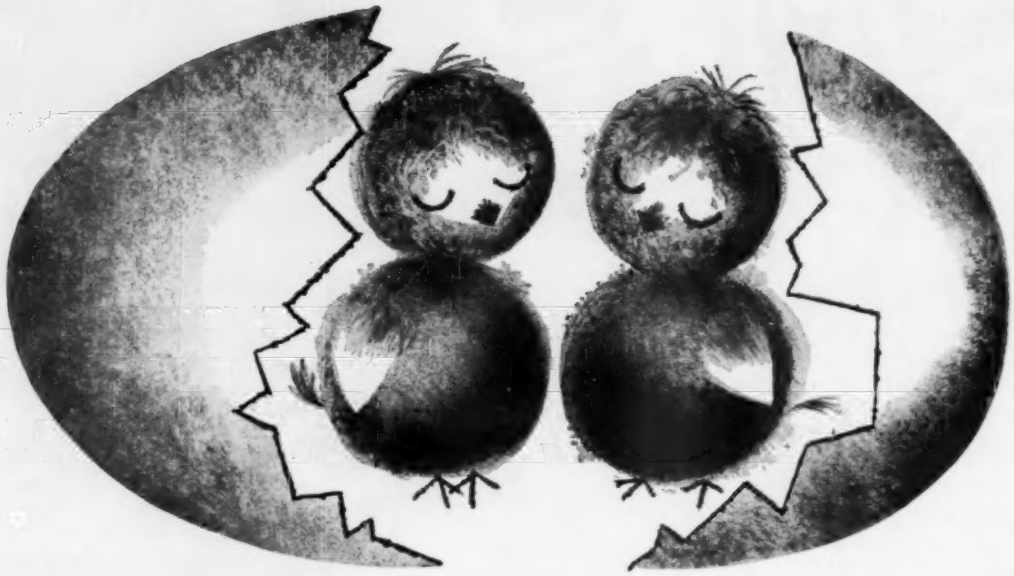
WRITE FOR COMPLETE...

...CATALOG OF PLAN

LeFebure CORPORATION
CEDAR RAPIDS, IOWA

Please send complete information on SHORT CUT BOOKKEEPING

NAME
FIRM NAME
ADDRESS
CITY STATE



How to find the hidden "plus" in your business machines

Take the matter of inked ribbons, carbon papers, and duplicating supplies. If these do not live up to the mechanical demands of your business machines, how can they deliver their best?

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Coming Events

Railway Systems Meeting. Chicago, December 6-8.
Sponsor: Railway Systems and Procedures Association. *Place*: Morrison Hotel.

Electronic Data Processing Seminar. Cambridge, Mass., December 12-16.
Sponsor: Massachusetts Institute of Technology. *Place*: Massachusetts Institute of Technology.

Operations Research Symposium. Philadelphia, December 14.
Sponsors: Philadelphia Section, I.R.E.; Delaware Valley Section, Society for Industrial and Applied Mathematics; Professional Group of Engineering Management, I.R.E. *Place*: University Museum, University of Pennsylvania.

Conference, "Practical Utilization of Recorded Knowledge." Cleveland, January 16-18.
Sponsor: Western Reserve University. *Place*: Western Reserve University.

AMA General Management Conference. San Francisco, January 24-27.
Sponsor: American Management Association. *Place*: Hotel Fairmont.

Executive Development Course. College Station, Texas, January 29-February 18.
Sponsor: Agricultural and Mechanical College of Texas. *Place*: Agricultural and Mechanical College of Texas.

OMAC Business Show. Chicago, February 12-15.
Sponsor: Office Management Association of Chicago. *Place*: Conrad Hilton Hotel.

1956 Conference on High-Speed Computers. Baton Rouge, February 15-17.
Sponsor: Louisiana State University. *Place*: Louisiana State University.

AMA Personnel Conference. Chicago, February 15-17.
Sponsor: American Management Association. *Place*: The Palmer House.

Seminar, "Electronics for Business." Milwaukee, February 16.
Sponsors: Milwaukee Chapter, Systems and Procedures Association of America; Marquette University. *Place*: Marquette University.

1956 British Industries Fair. London and Birmingham, England, February 22-March 2 and April 23-May 4.
Sponsor: British Industries Fair Ltd. *Places*: In February, Earls Court, London. In April, Olympia Hall, London (office and other equipment) and Birmingham (heavy industry).

AMA Insurance Conference. New York, May 9-11.
Sponsor: American Management Association. *Place*: Hotel Roosevelt.

IASA Insurance Conference. New York, May 20-21.
Sponsor: Insurance Accounting and Statistical Association. *Place*: Hotel New Yorker.

NOMA International Conference and Exposition. Philadelphia, May 20-24.
Sponsor: National Office Management Association. *Place*: Convention Hall, Commercial Museum.

AMA General Management Conference. New York, May 23-25.
Sponsor: American Management Association. *Place*: Hotel Roosevelt.

37th Annual International Cost Conference. Chicago, June 24-27.
Sponsor: National Association of Cost Accountants. *Place*: Conrad Hilton Hotel.

To our readers:

Office Management **receives many requests to run announcements of conventions, conferences, and special events in the "Coming Events" columns. Unfortunately, a certain amount of this information reaches us too late to be included. As a guide to those organizations offering programs that would be of interest to our readers, we suggest that any such announcements be submitted at least one month before publication date.**

The Editors,

with the EDITORS

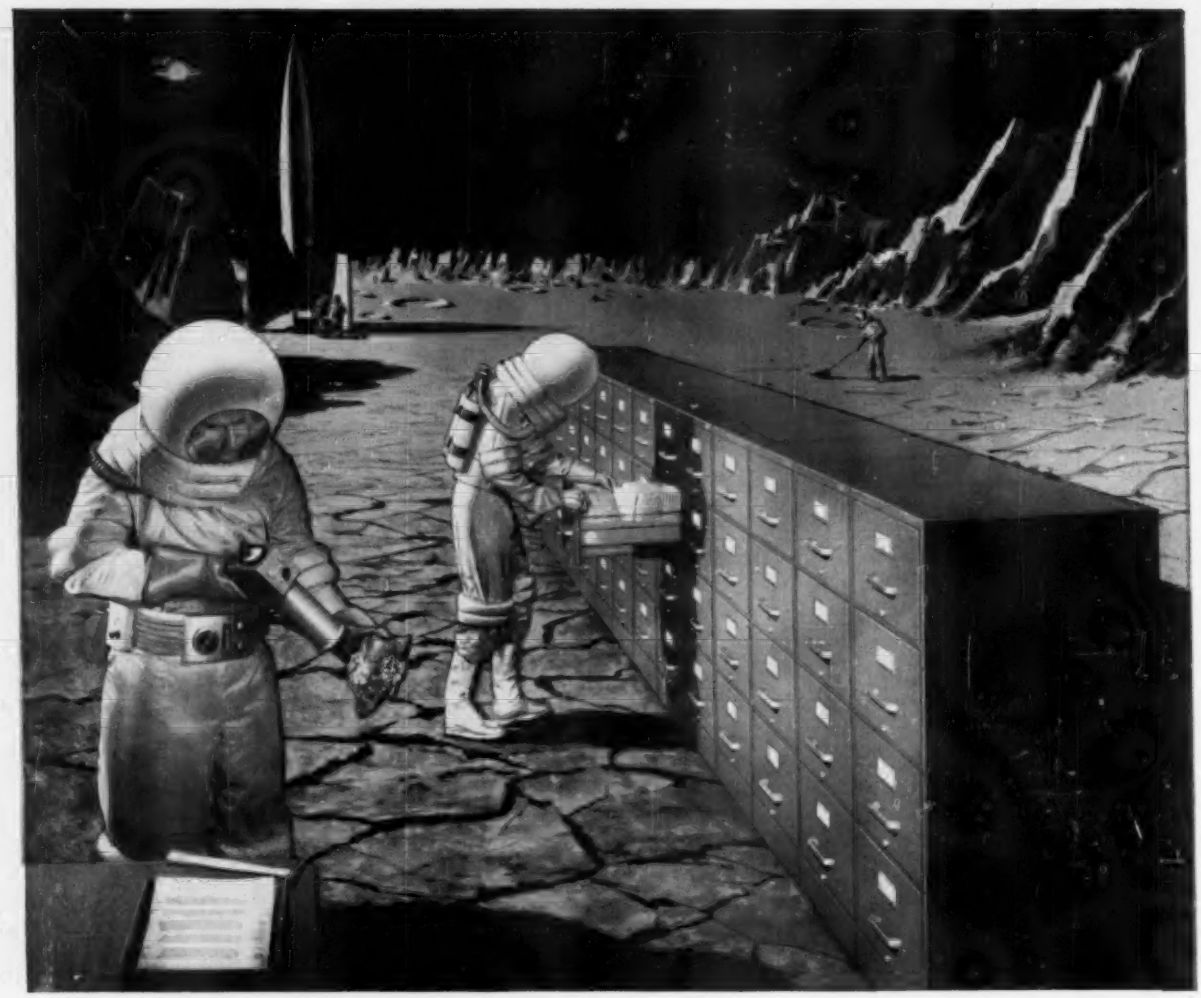
THE STORY beginning on page 18 in this issue describes a conference held last month which we feel was unusually important for many reasons. The conference considered various phases of office automation. That is not in itself unusual. What was unusual was the audience for which it was deliberately designed. "Automation for Senior Officers," was the conference title, and that meant just what it said. To quote from the brochure describing the conference sessions: "The Conference is designed solely for Senior Officers who determine policy with regard to automation."

THAT was the purpose. The conference drew the management level designated. And this conference was concerned solely with *office* automation. It seems to us the most vivid proof of a thesis we have often advanced in these pages: that the office, for so long the stepchild in the company picture, is now a matter of extreme concern to top management echelons—both because of its rising costs, and management's growing recognition that a company's welfare depends in a very real sense just as much on the speed and accuracy with which the office does its work as it does on efficient methods on the production line.

MOREOVER, we think the conference was important because of its content, and the overriding theme that came through so strongly—that automation is a system concept rather than strictly a machine concept; that the principles of automation are as applicable to the small office that could never even consider elaborate machinery, as they are to the giant corporation, which can employ a battery of electronic data processors. It's a point that's been made before, and been made often, but that can't be overstressed. Automation can be achieved in the small office just as surely as it can in the large. The principles of achieving it are the same in each. It is only the means — the machines, the "hardware"—that differ.

Robert M. Smith
Editor

Robert Beeman, *Associate Editor*
Thomas V. Murpry, *Editor-in-chief*
Geyer-McAllister Publications



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editorial

"Neither snow nor rain—"

"A STEADY WORKER"—a label a bit old-fashioned perhaps, but still conspicuously appropriate to the average man or woman making up the office task force. "Loyal" and "faithful" are two other words also applicable here.

Office people stick to the job in a way that makes for envy in many another field.

People who work in the office are steady, loyal, and faithful because the office—more than any other place of labor—offers opportunity. The modern office is not a static area where yesterday, today, and tomorrow are always alike. Increasingly, and at an accelerating pace, the office presents a challenge, and is steadily increasing its sharpness in recognizing ability to meet that challenge and the necessity of giving material recognition to that ability. Ways up are kept clear; individual ability can reach its maximum level of performance and reward in a minimum of time. And even this far away from the age of romance, office boys can still become presidents!

The quiet course of employer-employee relations in the office field is one of the reasons why the American office sets the pace in all phases of office accomplishment. For this credit must be given to the people comprising the office force as a whole. But it must be given too, in a big way, to those who concern themselves especially with what must now be called the science of office personnel administration.

Major office automation meeting held in Chicago

University of Chicago sponsors first automation conference ever held for top officers only

PLANNING FOR automation is more important that the "hardware" eventually bought to achieve automation, speaker after speaker cautioned 250 selected top executives attending an "Automation for Senior Officers" conference conducted by the University of Chicago last month.

The conference, the first on office automation to be held exclusively for company officers of the top rank, was held at the Hotel Shoreland, Chicago, November 14 and 15, under the auspices of the University College.

Themes for the various sessions of the conference were: Monday morning, November 14, "What is Automation and What Will It Do for the Processing of Business Data?"; Monday afternoon, "Development of Policies Concerning the Effect of Automation Upon People"; Tuesday morning, November 15, "Development of Policies for Converting to Automation"; and Tuesday afternoon, "Data Processing Automation for Your Own Business."

In the keynote speech of the conference, Robert M. Smith, editor, *Office Management,* struck the theme that was to be heard again and again during the two-day meeting: automation is a way of doing things rather than a matter of any particular equipment.

"Automation is still the darling of the manufacturing world, the dimly acknowledged in-law of the office," he told the group. This comes about, he went on, because of a confusion in the equating of office and factory. Both turn raw materials into finished products but the factory emphasis on automation depends mainly on new machine developments, whereas the office emphasis on automation depends mainly on new systems applications.

He illustrated his point by emphasizing that integrated data processing was the basis of office automation, and illustrating how integrated data processing could be achieved in an office with no machines at all, simply by forms revision.

Not only are the bases of automation different in office and factory, Mr. Smith pointed out; the results are different. The prime goal of factory automation is more efficient production at lowered costs. No new products will necessarily result from automation in any given factory.

The office case is different, he continued. The office, since it must deal with more exceptions from the routine than the factory, will always be more dependent on people than the factory, even under automation. But the office will be able to create new products under automation, he emphasized.

"The office can extend its scope under automation," he went on. "It can furnish new clerical products through automation. It can give operating reports based on current information, rather than past information, because of the greater speed of data processing made possible through application of the basic principles of

Conference attendance was limited to 250 registrants

automation. Such reports can be a firmer guide than ever before for management thinking and management planning. They can eliminate much of the intuitive, seat-of-the-pants type of planning that has been the only sort possible in the past.

"Thus, through offering the office the possibility of processing its regular work faster and more accurately—both possibilities inherent in the automation of the great mass of repetitive work that is the major load carried by every office—a new dimension opens before management personnel. This is the creation of new operating information—much more timely and vital operating information—on which to base future management planning."

Automation can increase tenfold the efficiency of the office's day-to-day tasks, and at the same time open whole new worlds to the office in its role as the nerve center and planning headquarters of all the company's operations, Smith told the group.

"Computers are only machines"

"The computer is just another machine," he went on in emphasizing that system design, rather than any one machine or group of machines, is paramount in office automation. "It is a very much more comprehensive machine than any other in the galaxy of equipment available for office automation. It is still a machine which is not intrinsically essential. It is only essential in a system that requires it. It may give magnificent results in one office. For another office, an equally good, equally resultful system may not involve a computer at all. In certain very small offices, a computer may not only be economically wasteful; it may actually hinder the flow of work."

Following the opening talk by Mr. Smith, a film, "How Electronic Computers Work", was shown.

The second speaker of the Monday morning session, John A. Higgins, partner, Arthur Andersen & Co., Chicago, talking on "A Brief Appraisal of Electronics for Business", declared that electronics for business, "before it is an established fact, will have gone through six separate and distinct stages of evolution:

"1. The hysterical era.

"2. The negative or do-nothing era.

"3. The initial surge or follow-the-leader phase.

Among the speakers were:

George H. Daigneault, University of Chicago, Conference Moderator

Robert M. Smith, Editor, *Office Management* magazine, New York

John Higgins, Partner, Arthur Andersen & Co., Chicago

Ralph W. Fairbanks, Fairbanks Associates, Greenwich, Conn.

Professor V. Donald Schoeller, University of Pennsylvania

Ewan Clague, U. S. Commissioner of Labor Statistics

"The office . . . brain, memory, and nerve center of the company—"

Professor Edward L. Wallace, University of Buffalo

Dr. Arvid Jacobson, Computation Laboratory, Wayne University

Gordon R. Corey, Vice President Commonwealth Edison Co., Chicago

"4. The period of critical re-evaluation.

"5. The prove-out period.

"6. The band-wagon era."

Electronic devices were oversold when they were first introduced in the "hysterical" era, Mr. Higgins declared, and this, plus the fact that the devices were primarily for scientific rather than business use, led to the "do-nothing" era. With the development of computers useful in business operations, and the installation of these computers by a few leading companies, the third phase began. This was characterized by an increase in orders for computers and the number of firms engaged in building computers, Mr. Higgins continued, leading in turn to a reaction—the fourth phase, the period of critical re-evaluation.

The pioneer companies that first installed computers found that a great deal more preparatory work was needed than had been anticipated, he recalled, and the companies that had rushed into the manufacture of computers paused to learn just what type of computer would prove most marketable.

Prove-out period imminent

The last two stages still lie in the future, Mr. Higgins said, predicting that the "prove-out period" will take place mostly in 1956 and 1957, and possibly 1958.

"If this prove-out period bears out the belief that the operations research type of application is the one that really pays off, I think it will be the start of the next stage of our evolution which is one that I have labeled as the period of frantic rush to get on the bandwagon.

"Based on our experience to date," Higgins continued, "we firmly believe that computers will prove out during this period, and we think it behooves every company which at the present time is of sufficient size to warrant mechanization under present techniques and methods such as punched cards, to make every effort to train its people in the techniques of this new science. The problem that will confront companies during this grand rush era will not be so much a matter of shortage of equipment (although this may very possibly occur) as a shortage of trained personnel to apply the electronic data processing equipment to the particular business problem."

Higgins emphasized the importance of recruiting the highest type of personnel possible for electronic data processing installations.

The third speaker of the morning session, Ralph W. Fairbanks, of Fairbanks Associates, Greenwich, Conn., discussing "Automation and the Processing of Business Data", defined automation as a "production system in which all human repetitive and—as far as possible—control effort is reduced to the lowest possible minimum.

"In the factory, this usually means replacement of human effort by machines", he said. "In the office, we have very much the same flow pattern we do in the factory. Certain raw material enters the office and is processed there into various finished products to serve management needs. In the office the basic raw material is information."

The office is "the brain, the memory, and the nerve center of the company," Fairbanks continued, and its single main purpose is to process all information into the forms best suited to management needs, to do it as quickly as possible; and to do it accurately.

"If we can increase the speed of the flow of information through the office while simultaneously reducing to a minimum the amount of human effort and time needed to maintain that flow, and do this without sacrificing accuracy or any of the end products for which the information is processed, we are achieving the major conditions of automation," he declared.

Integrated data processing achieves precisely these aims, Fairbanks continued, and it is applicable to every company large and small.

"Integrated data processing is a system concept," he declared. "It may employ no machines, it may employ some machines, it may employ fairly elaborate and expensive machines, but only when the flow of work makes use of such machines economical for a given office."

He illustrated his point by discuss-

Monday evening was devoted to an informal question and answer session

ing how the integrated data processing principle had been achieved in four companies of very different sizes; the Gage Publishing Company, which employed no equipment more elaborate than a photocopier and edge-notched cards; the *Readers Digest*, which used punched paper tape and tabulating cards; the Aluminum Company of America, which employed punched paper tape to activate machines in sequence, and for instantaneous transmission of data over great distances; and Sylvania Electric Products, Inc., which used a leased wire network connecting its major plants and offices to a specially constructed data processing center at Camillus, New York, where an electronic computer resolves the flow of information from all sources into the reports and operating information needed by management.

Each of the offices, he emphasized, has achieved a high degree of automation, even though the equipment used ranges from very simple units at one end of the scale to the most intricate business machines made at the other.

Discussing how an office can determine the appropriate machine level for its program of automation, Mr. Fairbanks said:

"A universal rule could be used when any machine installation is being considered—a rule that could almost be expressed as an equation. If the cost of mechanical hours for performing a particular procedure or complex of procedures is considerably less than the cost to the company of the manual hours involved in performing these procedures, then the machine or machine system is usually justified.

"We generally believe," he continued, "when it is a question of buying machines rather than renting them (in that case costs can be compared on a direct month by month basis) that savings in the cost of manual hours achieved by machine installation must be enough to offset the entire capital cost of the machines as well as conversion costs, in a two-to four year period. If amortization will take more than four years, purchase of the machine is usually not justified."

System must precede mechanization

The fourth speaker, Dr. Leslie G. Peck, of Arthur D. Little, Inc., Cambridge, Mass., discussed solution of problems by machine and emphasized that often even very complicated problems can be solved without the use of computers if a number of simple alternative approaches are tested first.

"There is nothing magic nor panacea-like in the mere names of electronic systems and computers," Dr. V. Donald Schoeller, Wharton School of Finance and Commerce, University of Pennsylvania, assured the audience in the last speech of the morning session. Echoing the same theme that had been emphasized by other speakers during the session, Schoeller said that no new development in office equipment should be considered by any company without a thorough and searching analysis of its systems, procedures, clerical costs, and other special problems.

"The equipment itself is merely the means and the tool which is used to accomplish the end," Schoeller continued.

He also declared that much of the savings attributed to machines in an automation program actually stem from systems improvements made in preparation for use of the machines rather than from the machine installation itself. Such system savings often run as high as eighty per cent of the savings attributed to automation, he declared, even though they are achieved by the classic techniques of work simplification and system improvement before a single new machine is installed.

"We may draw the conclusion here that when top management has merely expressed a wish to investigate the potentialities of automation that the necessary investigation starts chains of reactions that, properly handled, bring about major savings and cost reductions," he declared.

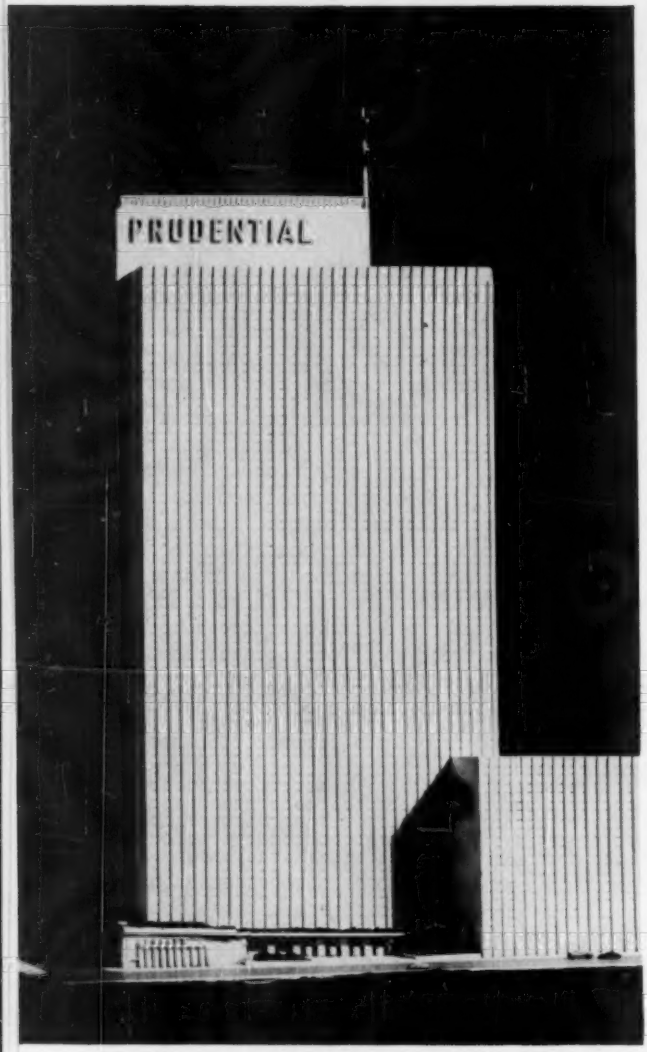
At the luncheon meeting on Monday, Morris H. Hansen, assistant director, Department of Commerce, discussed the "Potentialities and Problems of Electronic Data Processing", in terms of the Census Bureau's experience with various electronic processors.

America's aproach to an economy of abundance, and the consumer's apparently unlimited ability to absorb any amount of production, create an atmosphere favorable to the most rapid technological advance, Ewan Clague, Commissioner of Labor Statistics, said in the first talk of the afternoon session. Discussing, "How Necessary is Automation for America?" Clague said that the impact of automation will put a high premium on education, will call for the creation of many new skills, and will also create some amount of displacement

(*To page* 45)

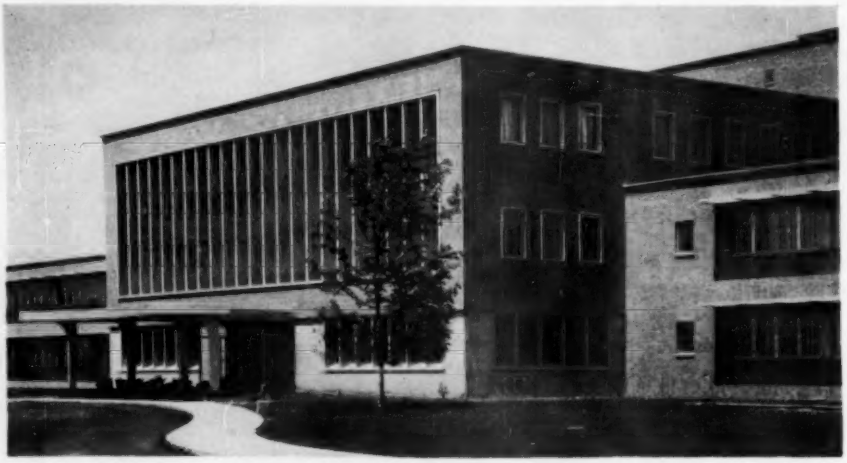
Here they are—
the nation's top new offices—

"Office of the Year" Award winners—1955

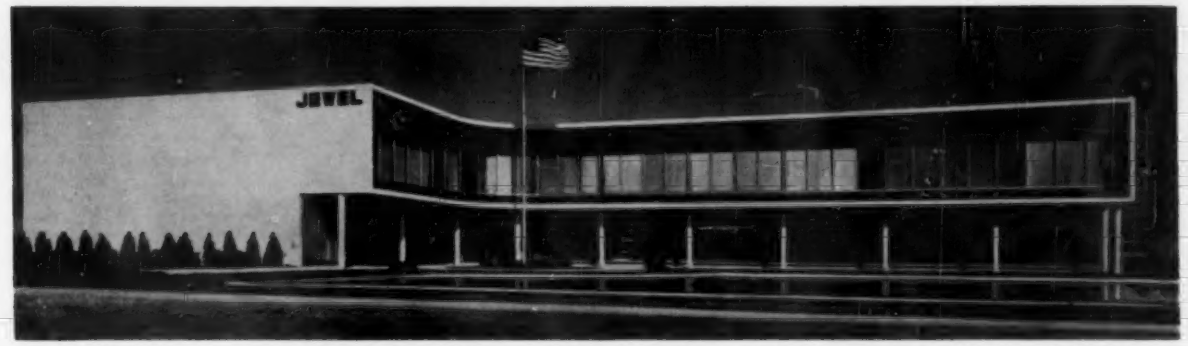


Office of the Year **(for offices designed for 500 or more employees): Prudential Insurance Company's new Mid-America Home Office, Chicago, Ill.**

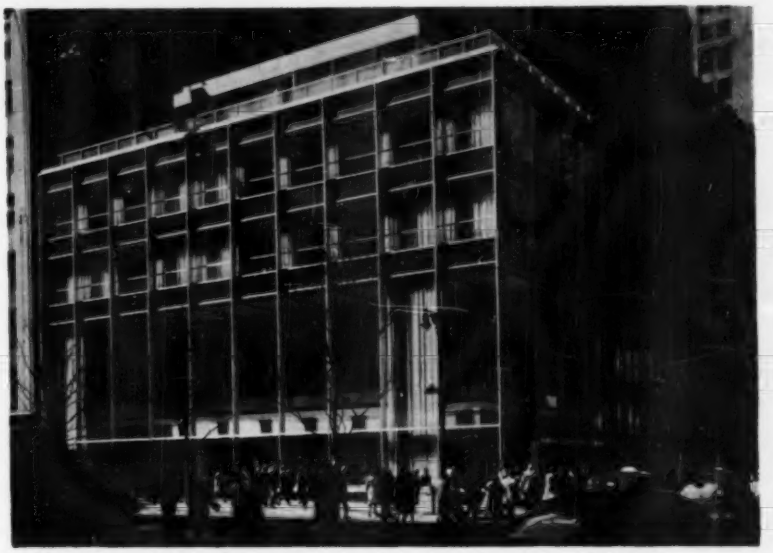
Award of Merit **(for offices designed for 500 or more employees): Republic National Bank of Dallas, Dallas, Texas.**



Award of Merit **(for offices designed for 500 or more employees): Atlas Powder Company, Wilmington, Del.**



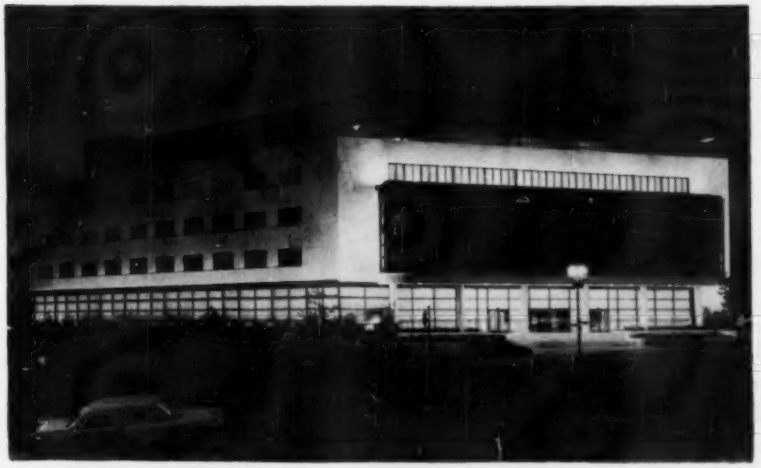
Office of the Year (for offices designed for up to 500 employees): Jewel Tea Company, Inc., Melrose Park, Ill.



Award of Merit (for offices designed for up to 500 employees): Manufacturers Trust Company's new Fifth Avenue Offices, New York.

Here are the six offices chosen as America's best for 1955. This year is notable in that it makes the first time top award winners in the under and over 500 employee categories have both been located in any one metropolitan area outside New York; a significant indication of Chicago's dynamic business growth.

Full picture stories on each of the Award-winning offices will appear in the January Yearbook issue of *Office Management*.



Award of Merit (for offices designed for up to 500 employees): International Brotherhood of Teamsters, Washington, D. C.

Develop executives as individuals, not mere replacements, Elles Derby urged

Part 2—

Quarter-billion wasted annually on paperwork, AMA hears

AMA "Question girl" picks up a query to be answered by speaker

United Air Lines' techniques of sampling and accounting by exception outlined at AMA's fall office management conference in New York—

AMERICAN INDUSTRY probably wastes more than one-quarter of the billion dollars it spends each year on paperwork, the first speaker on the opening day of the American Management Association Office Management conference held in New York in October told executives attending the three-day meeting, at the Hotel Statler.

Hal E. Nourse, vice president-economic controls, United Air Lines, said that his concern is using sampling instead of all-out accounting, accounting by exception, and operations research techniques to help cut paperwork costs.

For example, he continued, United no longer requires 100 per cent accounting on interline ticket balances. Other airlines' billings for their part of a multi-line trip are now based on a sample of approximately ten per

Final luncheon speaker was Saul M. Silverstein (left) shown here with AMA president, Lawrence A. Appley

Frederick A. Long answers an audience question at Wednesday session

cent of the tickets. Tests have shown that the sampling results differ from precise results over a six months' period by only one-twentieth of one per cent.

Sampling is also used to prepare a daily profit and loss statement for management at United, Mr. Nourse declared. Selected representative stations along the airline's routes each day send in wired code reports which are used to prepare the estimated daily profit and loss statement before ten each morning. Variation between the estimates and complete final figures at the end of the month usually is two per cent or less, he reported.

Accounting by exception is being applied in payroll reporting, Mr. Nourse said. Now United requires hours worked to be reported only if they vary from the standard.

Although cost reduction is a fundamental objective of office mangement, equally important, according to Nourse, is a whole attitude of service toward top management and other departments.

Organization creation described

The second speaker on the opening day, Robert E. Shull, Administrative Manager, Fine Chemicals Division, American Cyanamid Company, describing his new division's experience, said that one great advantage in building an organization from scratch comes in the opportunity it gives to work out the most efficient grouping of functions.

Saying that his division's General Manager had specified creation of the post of Administrative Manager, to be responsible for everything "not specifically sales, technical, or production," Mr. Shull declared that responsibilities now falling to him include products, control, services, and other administrative functions.

"Other administrative functions" according to Mr. Shull, underline the distinction between divisional and central staff responsibility. In his company, the administrative manager's staff develops procedures that are related only to the division, related standard instructions, and rough drafts of related forms. Issuance of standard instructions, and final preparation of the form is a function of the central procedures department.

Mr. Shull stressed that no organizational plan is directly applicable outside the company in which it is developed, but said that certain basic principles always give good results. Some of these are:

1. The use of an independent body to correlate diversified interests.
2. Assigning related functions to one person in order to focus definite responsibility and authority.
3. Assigning functions to individuals most interested in them.
4. Assigning administrative functions to an independent body to avoid diverting operating attention from the operating functions.
5. Applying the "states right" concept to operating divisions, and
6. Giving preference to local rather than absentee supervision and direction.

Records management programs

After the speech by Ralph A. Martin on clerical costs savings (reported in the November issue), three speakers discussed their companies' experience in achieving a "New Look in Records Management."

Herbert B. House, supervisor, office services, Chance Vought Aircraft Corp., Dallas, Texas, told the group that his company has organized a records management program which is as "complete and effective as the forces organized to produce the paperwork." The program permitted the release for re-use last year of 425 four-drawer filing cabinets, and the destruction of 1600 boxes of records.

Personnel in charge of records management at Chance Vought are directly responsible to top management, Mr. House said, terming this a "basic requirement" for an effective pro-

Communications depend on spirit, not media

gram. A records retention committee has been formed, and this committee includes representatives of the accounting, legal, engineering, and general administration departments. Files and records are reviewed once a year, and each department is required to examine each of its file folders, and report on the nature of the contents, the space occupied, the period covered, and the number of years required for internal use.

A centralized records center will cover its initial and operating costs in savings, Daniel J. Olsen, comptroller and treasurer, M. W. Kellogg Co., Jersey City, said in continuing the discussion on records management.

Before it established such a center, he went on, Kellogg was probably wasting more than 65 cents of every dollar spent on record keeping.

The centralized records management program at Kellogg has reduced total record keeping 34 per cent, with 133 tons of paper scheduled for destruction, he declared. Record keeping in the office has been cut 36 per cent.

Control records at source

The third of the records management speakers, Harvey Sherman, manager, organization and procedures office, Port of New York Authority, warned the executives attending the meeting that developing a records management program outside the framework of a complete organization, methods, and procedures program can lead a company into blind alleys.

In its proper perspective, Mr. Sherman said, records management is only one set of tools available to the management analyst for improving operations.

"The emphasis," he declared, "should be on the organization and procedure for using the paper—who uses it, why, when, where, and how. Far more substantial savings can be found in attacking the creation of the paper—why it is needed, who creates it, when, where, and how, rather than its filing and disposition."

The Port Authority has these major components in its records management program, Mr. Sherman said:

Forms management
Reports management
Correspondence management
Written instructions
Files processing
Records retention

A positive approach is taken to forms management, he said, which is regarded as a help to departments rather than mere forms control. Periodic surveys of reports eliminate obsolete and unnecessary ones. Correspondence management has led to use of printed acknowledgements to carry much of the correspondence load.

The Port Authority plans in the near future to switch from a centralized filing system to decentralized operating records units with centralized control. Estimated savings from this change will be $40,000 a year.

"We have consciously broken a cardinal principle dear to the heart of all records specialists—that the entire records functions should be under a single individual," he said. "Responsibility for methods of controlling creation of forms, reports, and correspondence, continuing attention to the organization of files, analysis and development of files procedures and systems, development of performance and equipment standards for the files operations, and records will be assigned to the organization and procedures office; non-analytical functions such as storage in inactive files, microfilming, and audit of files will be assigned to a central records services unit."

The second day of the conference, Tuesday, October 18, opened with a talk by Richard F. Neuschel, Principal, McKinsey & Co., on strengthening and simplifying management reports (covered in the November issue of *Office Management*).

The second Tuesday speaker, A. F. Bortz, assistant secretary, Lord Manufacturing Co., Erie, Pa., warned the group to "make haste slowly in setting up a company procedures manual."

Fourteen advantages of reducing all company procedures to writing, Mr. Borst said, are:

1. Procedures manuals formalize all company operations.
2. They smooth communications.
3. They can be used as training and personnel development media.
4. They clarify or establish policies.
5. They insure coordination and eliminate duplication of effort.
6. They mean uniform interpretation of policy.
7. They establish reference sources.
8. They define responsibility and authority.
9. They preserve policies even through personnel change.
10. They strengthen supervision.
11. They insure work simplification.
12. They establish control of forms.
13. They strengthen employee relations.
14. They establish control points for cost analyses.

Two "absolutely necessary" prerequisites of a procedures manual program, according to Mr. Bortz, are a policy manual and an organization manual or organization chart.

Sincerity in communications

Effective communications depend more on the spirit in which they are undertaken than on any devices or media, Harry D. Kolb, manager employee communications division, Esso Standard Oil Co., New York, declared in the last talk on Tuesday morning.

"If people feel an honest desire to communicate," he said, "if they sense an atmosphere where they can hear and be heard, then the right communications devices will come into being naturally and communication will become a way of life, not a problem. Communications failures usually stem from the wrong attitudes, not

(*To page* 64)

Conferees visit business machines exhibits at the Sheraton-Cadillac Hotel, conference headquarters

Manual methods still vital says SPA speaker

A year's experience with an electronic computer, clerical incentives programs, communications techniques, operations research subjects are also discussed

(*The first part of this report on the Systems and Procedures Association conference, held in Detroit in October, appeared in the November issue.*)

THE SUBJECT of operations research, which attracted considerable interest among the conferees, was discussed in two papers presented during the first afternoon. R. O. Ferguson, Principal, of the Methods Engineering Council, Pittsburgh, explained some of the basic concepts of the subject in an address entitled, "Introduction to Operations Research."

The contributions of operations research to better management, said Mr. Ferguson, are evident in at least two ways: "(1) The approach and methods used are making possible more effective use of a firm's resources, including people, money, machines, material, and *time*. (2) The information and the insight into the cause and effect relationships of problems that is provided is making the executive more effective in his position. It gives him answers and alternatives that reduce uncertainty."

Noting that there have been a number of definitions of operations research, Mr. Ferguson said it was probably too early to say exactly what it is. For the purposes of his speech, he described it as "the scientific approach to and analysis of business problems, aimed at pro-

Speakers included (from left to right): Dr. Wesley Wiksell, David A. Woellner, and Ray R. Eppert

Business equipment exhibited included systems duplicators . . .

. . . IDP equipment . . .

viding management with information for obtaining most effective overall operation of the business." Later in his address he said, "Operations research seeks a best overall answer. . . . This can only be done by considering total or overall operations—not just one phase of the operations. The OR goal is the same as that of the company—the most effective total operation."

OR applies science to business

He traced the development of operations research from a point in World War II when the assistance of scientists was called on to solve several critical war problems. The success of applying scientific methods to non-scientific problems was so marked that applications to business followed logically. One particular virtue of the operations research approach, he said, was that "improvement in the *use* of existing weapons and equipment could contribute more in a short time than could improvement of the weapons or equipment themselves."

Continuing, he said, "You may ask, 'How can people trained as scientists, research men, mathematicians, produce better answers to production, forecasting and other problems than the men who have spent all their lives on such work?'

"There are a number of answers—and perhaps the most significant answer is the difference in *approach* to the problems. The executive is preoccupied with answers—the OR team with causes. For example, when an executive looks at sales figures, he looks at them in terms of the success of his sales campaign and its effect on profits. By contrast, when the OR team looks at these same figures, it seeks some clue to the fundamental behavior pattern of customers."

Mr. Ferguson stressed the importance of the team approach, for, he said, "no one person can expect to be familiar with the wide range of analytical techniques which are available."

According to the speaker, certain basic characteristics of OR that are of help in industry are: "(1) It brings an organized approach and attack to problem areas—which usually results in a clearer, more precise definition and concept of the problem. This alone is worth the cost of OR. (2) It brings the team approach—involving the use of research and management personnel—which acts in an advisory capacity. (3) It brings tools and methods which in some cases are new and in other cases have been used with success in the physical sciences. Of particular interest and usefulness is the model—used to describe a real situation and predict answers. (4) It brings delegation of the analysis of management problems to people not responsible for the problem or results. It suggests the use of an OR team to function as a staff or advisory group.

"(5) It brings attempts to improve the use and effectiveness of present facilities and resources first. (6) It brings new objectivity, inquiring minds, and problem-solving abilities.

"As a result, management is supplied with information on which to make decisions—including a best answer, alternative answers, and knowledge of what is foregone if less than best answer is selected."

Discussion of the subject was continued by Dr. Russell L. Ackoff, Associate Professor and Director of the Operations Research Group, Case Institute, in a paper entitled, "Abstract Techniques Used by the Operations Research Team."

Overall view stressed by OR

Dr. Ackoff said that operations research is characterized by the types of problems it tries to solve. In general, these involve "interaction of the functional components of the business." For example, he said, different departments in an organization are likely to have conflicting views about the desirable size of inventory—the marketing people would prefer it large, financial men would like to keep it low. Operations research, however, can approach the question from the viewpoint of the company as a whole, to supply answers that keep all factors in the best balance.

The speaker then proceeded to a discussion of the "model," which he described as one of the most powerful tools available to operations research. All models, he said, reduce to a set of one or more equations which represent the basic factors in the problem to be

solved. The model incorporates only those parts of the problem which are relevant, and it is so constructed as to make it possible to predict the effects of a given course of action.

The equations are concerned with a set of variable quantities, some of which can be controlled, while some cannot.

Models, Dr. Ackoff said, are generally considered to fall into six classes: (1) planning, (2) allocation, (3) scheduling or sequencing, (4) replacement or maintenance, (5) competitive, and (6) search or information. Of these, the first three were considered of pri mary importance.

He then illustrated the use of the model with examples from a wide range of business problems which can be solved practically by means of operations research techniques.

Speaking of how to set up an operations research unit in a company, Dr. Ackoff said that "in general a team should never consist of less than two people." On the other hand, he commented, when there are more than five on a team, they tend to get in each other's way. A team can then be broken into separate components.

Management must participate

Dr. Ackoff stated that when setting up a team it is important to have management's participation, and that it is helpful to organize an operating advisory board containing the head of the operating section whose procedures will be affected by the research.

A logical place to begin work, said the speaker, is in any area in which the results can be easily shown in a reasonably short time. Production personnel, he said, are accustomed to thinking in terms of numbers; thus, production is a relatively easy area to enter with operations research. However, in the opinion of Dr. Ackoff, the best results are generally obtained in other areas, such as marketing.

In answer to a question from the floor, the speaker suggested that while the OR team need not have outside experts, one member should have had training as a scientist, another as an engineer. If there is a third, he should be a mathematical statistician.

In an address given in the English Room on Monday afternoon, Dr. Arvid W. Jacobson, Director of the Wayne University Computation Laboratory, discussed "Training Personnel for Electronic Applications to Business Problems."

. . . auxiliary units used with electronic computers . . .

Dr. Jacobson said that the main roadblock to efficiency today is the shortage of qualified manpower. The installation of electronic machines in the office, he declared, requires more decisions than an outside expert can make. The user, after all, is the one who must pay the bills, and since these are usually quite large, high level decision is called for. This means that top management must know something about what electronic equipment can do.

While many jobs in the electronic age can be filled ably by non-college personnel, many of the important posts call for individuals capable of mathematical, quantitive, and logical thinking. Systems men and others are therefore advised to go back and brush up on mathematics, which he considered a valuable aid in developing these faculties.

In response to a question from the floor on the place of the mathematician

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. . . and models of computer installations

Have you checked your reports lately?

You may be appalled if you do. Here's the story of what one office found:* 114 *reports coming to an officer who needed only ten—

by Leslie H. Matthies
President, Los Angeles Chapter, Systems and Procedures Association of America

A COUPLE of years ago Clifford Peterson, general manager of a medium-size manufacturing plant, was alarmed by the number of reports that were flooding into his office.

He asked his secretary to keep a count for 30 days. She did and a month later handed him a list of 114 different report issues that reached her desk within a 30-day period.

These reports came only from within the plant. Some reports came weekly. Some even daily. A daily report, of course, counted as 23 issues during the month. Each weekly report counted as four issues.

Manager Peterson's little survey was significant. He knew that most of the reports were useless to *him*. He merely glanced at some. Others his secretary filed immediately. He found only 10 useful report issues.

So Peterson concluded that he was getting 104 more reports than he needed! He asked himself, "Are my subordinate executives subjected to a similar flood of reports?"

How many reports did the entire plant make out? How much time went into these reports? How many were really useful? Could 90 per cent of the reports be cut out?

Peterson called in Ed Kelly (all names fictitious), his systems man. He asked Kelly to check into the reports problem and come up with the facts. How many? How much cost? How much use?

What did Kelly find?

Just as a basis of comparison, let's look at a few facts about the company and its plant.

The Peterson Manufacturing Company employed 2800 people. Sales volume ran about 28 million dollars annually. To do business, the company printed and used 614 different printed forms. Its personnel breakdown went about like this:

Sales (Including Supervisors)	350
Direct (Factory)	1775
Indirect (Office)	450
Plant Supervision and Management	225

The company manufactured for stock, so its production problems were not excessively complicated. However, quality was an important factor and many of the reports were on quality subjects.

That's a brief summary of the company's status. How many repetitive report issues should it take to convey data to executives? 200? 250?

How many separate reports did Ed Kelly actually find? He found that the entire plant produced 824 different report issues within a 30-day period! Kelly measured by "issues", because he knew that each issue is indicative of a unit of work to prepare. Kelly found that plant people were producing 475 separate reports on a repetitive basis. All copies, of

all reports, added up to 4,278, or about nine copies per report on the average.

The 4,278 copies sounds bad enough, but the end had not yet come—one of the reports consisted of 32 pages! Others had 20, 17, 12. The page average was six. Multiply this page average by 4,278 and we find 25,668 pages of reports each month! Quite a paper mill. Kelly picked five of the reports at random and made an attempt to find out what it cost to compile and issue them. He considered these cost factors:

1. Time to gather the basic data.
2. Time to compile the worksheets.
3. Posting time or tab punching time.
4. Transcribing or sorting time.
5. Time to "comp" or compute the figures.
6. Time to type (or run the data on the tabulator).
7. Time to address envelopes for the distribution list.
8. Time to proof the final copy.
9. Materials used.
10. Time for any special reproduction (spirit, projection slides, blueline, photostat, multilith).
11. Time for art work on graphs, or charts, for visual presentation of report data.
12. Time to handle in the internal mail system.
13. Time for the desk clerk to receive.
14. Time for the recipient to look over the report (possibly only to file it and throw it away).
15. Time for the recipient really to study the report (in the rare cases where he took any action on the basis of the data).

All of these cost factors didn't apply in every case, of course.

Kelly determined time costs to the nearest 100th of a minute—the usual time study measurement. Then he multiplied the total time by the pay rate of the employee doing the work. He next added 50 per cent to cover related burden costs, such as supervision, expendable supplies, space, heat, taxes.

For example, in one case a typist took two hours to type a simple report and she was paid $1.50 an hour. Two times $1.50 gives a direct pay-to-employee-cost of $3.00. Kelly added $1.50 to cover burden. Thus just the single cost factor (one out of 15) of typing this one report cost $4.50 per issue!

Costs unexpectedly high

As he applied all the other cost factors, too, Kelly found that his five sample reports came out as shown in Figure 1.

This sampling of five reports was enough to indicate the seriousness of the reports paper mill. Perhaps the expenditures could be justified *if* the reports were useful. But most of them led to no action—they told supervisors nothing that really helped them run their department.

Some of the reports went a step beyond uselessness. Some were completely unintelligible. Only the originator understood them.

Still others that might have been useful carried information on how things stood 60 days before. They were merely history—ancient history at that.

As he interviewed a few of the supervisors, Kelly found that in many cases the man who received a copy of the report thought something like this: "Well, *I* don't understand it, and *I* couldn't use the information if I did. However, some of the other men on the list undoubtedly understand it and use it".

This proved to be an assumption without foundation in fact. In checking, Kelly found one case when nobody wanted the report at all. Yet this 17-page report was issued each week. This report had been issued for 60 weeks (14 months) at a weekly cost of $17.92. The only man that thought the report was valuable was the man who issued it. He had spent $1075.00 to date for something that was completely useless to everybody else.

The salesmen had to dig up an extra $23,000 in sales merely to offset the loss imposed by this one useless report.

In another case, Kelly found one man who complained that he couldn't "shut off" a useless report. He had repeatedly asked the sender to take him off the list. But every month, that same report came in the mail.

Kelly went to the man who produced the report and asked him why he didn't take a man off the list. The sender said, "Why, the guy's silly. He can't do without that information. We'll keep on sending him that report. He needs it."

A number of the report creators felt that way. They'd say, "How can anybody possibly do without this important information?"

If people with this attitude were not restrained, they could flood the plant with papers they thought important.

But senders weren't the only guilty

(*To page* 72)

	Issued	Issues Per Mo.	No. of Copies	Pages	Total Cost Per Issue
Report #1	Daily	23	14	2	$ 13.39
Report #2	Weekly	4	3	1	7.56
Report #3	Weekly	4	9	12	45.18
Report #4	Monthly	1	1	5	172.11
Report #5	Monthly	1	7	1	14.01
			34	21	$252.25
			Copies	Pages	Cost
Averages for the Samples			6.8	4.2	$50.45

Figure 1

Research-editorial section is typical of general office

"Compact efficiency" is the phrase!

Careful planning and attention to details bring results in the new offices of the Controllers Institute

Reception area strikes streamlined note for new headquarters

THE NEW HEADQUARTERS offices of the Controllers Institute of America are not large, nor are many people employed there. That is no reason to sacrifice efficiency, in the opinion of the management association's professional staff. As a result, the Institute's new Park Avenue offices in New York embody many time and labor saving devices that a much larger office might envy.

This does not imply the use of much elaborate equipment, just the application of sound judgment and careful thought. Typical of the foresight that has gone into the planning of this small office is the mail separation procedure, borrowed from central post offices. The Controllers Institute office, functioning as it does as the nerve center of a busy management association, has a heavy volume of outgoing mail each day. In its former offices, the conventional system of handling outgoing mail was used—departmental secretaries delivered mail to the mailroom where it was broken down by two mail clerks.

In the new office, though, each secretary deposits her outgoing letters in mail slots covering four categories

—"Air Mail," "Local," "Foreign," and "Out-of-Town". The separated mail can go through the mail room much faster; there is less chance of error in postage, since the mail has been automatically divided into categories before it reaches the mail room.

And, since practically every employee in the office has mail to deposit in the wall slots sometime during the day, a further logical outgrowth of good planning was the location of the office bulletin board immediately above the letter slots, thus ensuring office bulletins and news a daily reading.

File space cut 40 per cent

The new offices are noticeably freer of filing equipment than the former headquarters. This again is a result of good planning. Six months before the offices were transferred to their new location, a stringent file reduction program was inaugurated. By the time the move was about to begin, estimates of the file space required had been reduced 40.6 per cent.

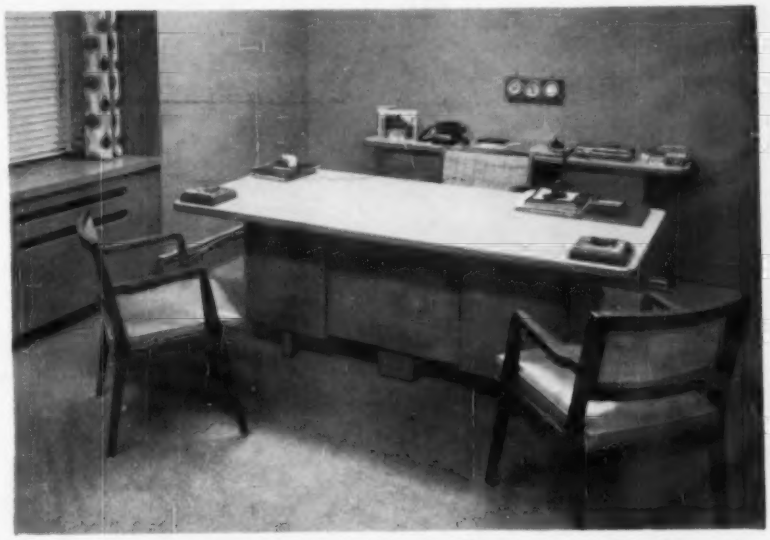
By discarding its old four-drawer files, and replacing them with five-drawer units, the institute reduced floor space required for files—even after the 40 per cent reduction achieved through file reduction—another 20 per cent.

The new offices show evidence of good planning in their appearance as well as in their working efficiency. The secretarial stations adjoining private offices have been carefully located to control traffic flow to department heads' desks, but they have also been provided with a generous working area that contributes to the general air of space and openness characteristic of the new offices.

Color imaginatively used adds to the attractiveness of the Controllers Institute offices. All walls through the office are cafe au lait, except for two walls in the lobby finished in Egyptian Brown, and against this background the mist green desks and files give a pleasing contrast. Further contrast is given by the use of plastic-fibre glass occasional chairs with steel desks.

The old saying that it's the cobbler's child that never has shoes is disproved in these striking and effective offices. Headquarters for a major management association, these offices look and act their role.

Idea borrowed from post office has speeded mail processing for Controllers Institute



Touch of luxury is given managing director's office by cane and leather chairs

Book-lined walls give conference room attractive background

The processor must decide: file or destroy

Conclusion—

Effective records control begins with records creation

The creator of records has primary responsibility in an effective records control program, but the user plays an important part, too. Here's how he can help—

by A. A. Deter
Office Manager, Instruction Material Department, Linde Air Products Co., New York, N. Y.

(*This is the second part of Mr. Deter's article. The first part appeared in the November issue*).

The processor has all the responsibilities of the creator when he too issues records or when he uses them. Specifically he is accountable for the following:

I. His first responsibility naturally must be to consider the incoming record in the light of its purpose and immediate use in his own department. During or immediately following processing of the record he should give thought to its value.

If it has no future importance it should be destroyed when he has finished reading it and taken whatever action is required.

If it has future value, he should make sure that both the title and retention code are listed and are what they should be. These two seemingly minor details are the key to future storage, finding and delivery of the record in the receiving office.

Titles and codes usually take care of themselves when there has been previous correspondence, etc. on the subjects. When they are correct the new record is easily and quickly matched with existing files. If either is incorrect, the error should become evident at this time and immediately corrected. Where correspondence, reports, etc. are received without titles, or codes, the processor should assign them before releasing the records to the filing department.

II. On new information, the processor's responsibilities become similar to the creator's insofar as the interest of his own department is concerned. He may not be in accord with the writer on the title or the retention value used by the latter. In the case of retention values, this may happen more frequently because of the difference in values to each office. The receiving office has much more freedom for earlier destruction of records than the creating office usually has and should make good use of that privilege.

When differences of opinions or errors occur on titles or retention values, other persons involved in the correspondence should be informed of whatever changes are necessary. This is necessary to assure uniformity in filing corresponding records at different offices.

III. A third and probably the most important responsibility of the processor or user in the records program is policing copies. With the free flow of copies to one and all, he should give thought as to whether or not his copy of a fairly well distributed record requires retention.

User free to destroy many records

As previously stated the office receiving records has more freedom for earlier destruction of them than does the originating office. Many incoming records should be destroyed after one reading. Others require only a short period of retention until instructions on prices, routines, and the like are fully understood and being applied. Some may contain information incorporated in releases of more permanent value, such as reports, manuals, etc. Even the more permanent type of record can usually be held for shorter periods in receiving offices if they apply the principle of the originating office's responsibility for longer retention.

The really permanent records that must be held in the receiving, as well as the sending, office should be few. This leads us back to the controversial subject of copies once more. While copies of contracts, personnel records, patent matters, litigations and other equally important types of records may require retention at two or more separate points under certain conditions, the practice can become loaded with abuses. This is particularly true when offices not responsible for final action on the matters covered by the records insist on holding copies just in case—. Multiple-copy forms are a fertile field for short-term retention in most of the receiving offices. A well organized and policed records program will have adequate provisions for controlling the ubiquitous copy.

The processor or user of new records has a very important part in the records control program. He is in the best position to slow down or stop any onrush of useless paper work to the filing department or storage center, when superfluous records get past the creator. Working in close harmony with the creator, he can lick any records control problem anywhere.

Don't overlook stenographers' role

Secretaries, stenographers and typists also have an important role on the co-operative effort team. Here is an important group that unaccountably has been overlooked in records control. They are the ones immediately behind the creators and processors of records and in a position to help them in many ways. For example, they can:

1. Request titles and retention codes for letters, reports, etc., that they prepare, in the event that the creator has overlooked this responsibility.

2. Be alert to the need for multiple titles for letters, etc. covering two or more subjects of equal importance. Again their assistance would be in a reminder capacity.

3. When multiple titles are given for letters, memoranda, and the like be sure to prepare a separate file copy for each subject involved. When possible to do so, they should also send a sufficient number of copies of the letter, etc. to the office to which it is being addressed for the latter's filing needs.

4. In multiple subject letters, be sure to list each subject or customer's name separately. Before releasing the file copies, each should be checked as to its filing position so that two or three do not arrive at the filing department at different times, unmarked. This makes it all too possible for all copies to go into one file.

5. Remind creators and processors of the fact that the records control program has codes that permit immediate destruction of unimportant records and short-term retention of those with limited value, so that all of their releases are not handled on the basis of indefinite retention.

6. Be alert and aware of the importance of the part they have in records handling.

Responsibilities in records control may seem new to secretaries, stenographers, and typists. Actually these responsibilities are just a part of their job that has existed all along, but has never been recognized by management and explained to personnel. When the proper approach is used in adding this group to the records control team, their contribution can be tremendous.

The filing clerk is the other important member of the co-operative effort team. She has the anchor position and all the basic responsibilities common to any records program. To do her part fully, she must also:

1. Familiarize herself with all phases of the records program so that she may be of greater assistance to the creators and processors who use the records and the secretaries and others who prepare them.

2. Consult with others in the records program on disposal periods for specific types of records so that she has a continuous screening and disposal plan in effect to prevent unnecessary buildup of those records held on an indefinite retention basis.

3. Understand the importance of her part in the records program so that she will fulfill her individual responsibilities wholly, offer the utmost in co-operation, and not resort to the purely mechanical routine of putting away or withdrawing papers from filing cabinets.

4. Be the watchdog on records earmarked for transfer from active files to staging centers or permanent storage points. Through experience, good judgment, and that little extra effort she can help prevent decisions of expedience sending records elsewhere that should be destroyed on the spot.

Added filing responsibilities

Proper execution of her basic responsibilities is also important to a good filing program, but is secondary to the attributes mentioned above in directly controlling record increase. In addition to putting records away for safekeeping and withdrawing them as needed, the file clerk's basic responsibilities require:

1. Keeping her files neat, orderly and attractive in appearance so that they are an asset to both the operation and general appearance of the office.

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Appointment of a Records Coordinator is often effective

Electronic reservation systems for railroads now ready coast-to-coast; Pan American will install computer

Atchison, Topeka, and Santa Fe installation completes network; IBM reports increased processor orders

Nationwide Insurance, of Columbus, Ohio, reports that it is "replacing the electronic brain with the electronic nervous system."

The new "nervous system" consists of the I.B.M. 650 electronic data processor coupled with I.B.M. transceivers which permit exact reproduction of punched cards between widely separated points by means of electrical impulses flashed over long distance telephone lines.

The data processing flow developed by Nationwide will permit regional offices in all parts of the country to refer to the processor for almost instantaneous computation of premium rates.

An accountant in New Haven, for instance, under the new system, will place a batch of punched cards bearing information about local policyholders in the New Haven transceiver. The information on each punched card will be automatically reproduced on another punched card by the transceiver at Columbus, and fed into the 650. The 650 will compute premiums due from each policyholder, and enter them on punched cards which can be put on the Columbus transceiver and flashed back to New Haven.

When fully operative, the Nationwide data processor will be able to handle easily the firm's entire automobile insurance billing project involving two and a quarter million policies, according to Edward Shelley, head of the Nationwide Electronic Development Department.

Clary offers I.D.P. unit

Clary Corporation has entered the automatic punch tape field for the first time, it was announced recently by Hugh L. Clary, company president.

The company is now producing a high-speed automatic tape punch unit to be operated in combination with its various business machine products, and with integrated data processing systems employing punched paper tape as a "common language."

Computer deliveries rising

T. V. Learson, IBM vice president in charge of sales, reported early in October that during the preceding ninety days, his company had received orders for 34 large-scale 700-series electronic data processing systems. Shipments of this type of machine are presently running at the rate of three a month, and in January shipments will have reached seven a month, according to IBM. Average rental is $30,000 a month.

In the intermediate area, 170 orders for the 650 Magnetic Drum machine, renting at an average of $3,500 per month, have been received in the last ninety days, Mr. Learson said. There are more than 115 already installed.

Nationwide reservations possible

The first steps toward establishment of a coast-to-coast electronics network to accelerate handling of all railroad passenger reservations are complete now that the Atchison, Topeka, and Santa Fe Railroad has signed a contract for installation of electronic reservation control equipment, it has been announced by the Teleregister Corporation, Stamford, Conn.

The Santa Fe is the first railroad serving the Pacific Coast to order such equipment, and since two major Eastern lines, the New York Central, and the New York, New Haven and Hartford, have also ordered the Teleregister Magnetic Reservisor unit, it is now possible to coordinate ticket reservations from one coast to the other by electronics, according to Teleregister.

The Teleregister equipment will keep track, automatically, of all reserved accommodations and permit ticket agents at key traffic centers across the country on the three lines to determine instantly if space requested on any one of the three is available.

As more railroads install the equipment, the automatic reservation system can be extended indefinitely, according to Teleregister officers. Circuits already blueprinted can also be extended to Canada and Mexico to link air and surface carriers in those countries.

The first phase of the Santa Fe installation, through which reservations personnel in Chicago, Los Angeles, Kansas City, San Francisco, and Fort Worth will have access to the system's central electronic equipment, will "cut from days to seconds the amount of time needed to make a typical cross-country train reservation," according to Teleregister.

"It will mean that a traveler in Los Angeles who requests space from New York to Boston, for example, can get confirmation of his reservation in little more than the time it takes him to light a cigarette," a company spokesman declared.

PAA to rent IBM 705

Pan American World Airways plans to install an I.B.M. 705 large scale electronic data processor at its Long Island City offices next spring, the first such installation in the air transport business, it has been announced by John S. Woodbridge, PAA controller.

Mr. Woodbridge said the reason for the installation is that standard accounting machinery can no longer handle efficiently the work load represented by companies as large as his.

"To obtain an idea of the problem faced by companies like Pan American," he declared, "one has to try to visualize 1½ billion cards. This is the number we machine annually. The cards are 7⅜ inches long. If laid end to end, they would stretch six times around the world. A jet transport traveling at 550 miles an hour would have to fly continuously for 13 days just to pass over this paperwork.

The PAA official said that in one accounting procedure alone, his company could cut processing time from 750 machine hours with present equipment to 15 hours after installation of the 705.

"But perhaps more important, we will be in a position to mine our records for information that it has never before been economically feasible to obtain," he continued.

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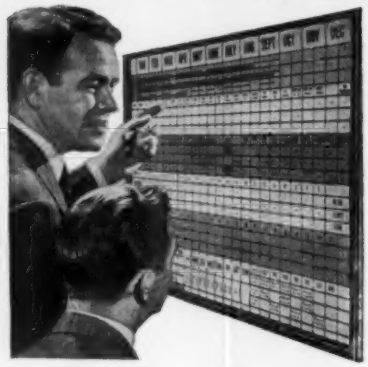

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SPA conference—

(*From page 29*)

in the company, Dr. Jacobson referred to a case in which a company wished to solve a series of 50 problems, each of which would have required 100 hours of Univac time. The problem was so big it was beyond the scope even of a giant computer. However, a mathematical approach showed a means of simplifying the basic problem so that each section could be solved in 100 minutes. Mathematical reasoning thus made it a workable problem.

Information handling discussed

Following Dr. Jacobson's speech, B. E. Wynne, controller, Western Maryland Railway Co., presented a paper on "Information Handling with Modern Communication Facilities."

Mr. Wynne suggested that the mounting clerical load might lead to some internal reorganization in big companies. He said, "The mounting cost of paper work has been recognized by management. No longer is it just a reasonable portion of general overhead expense. It has grown to the extent that many companies view it as a serious operating problem. A number of our major corporations have generously shared with us their thinking and planning for the cheaper accomplishment of information handling. On several occasions, spokesmen for these companies with advanced programs have ventured the thought that a full-scale program of better, faster, cheaper information handling must lead to the establishment of a new department in the company where practically all information is received and digested, with the results being transmitted to that segment of the company where the data are needed."

The speaker raised a question of approach: "Does our program reflect a careful choice among certain fundamental alternates? Are we going to work only in the offices whose payrolls are heavy, in the areas where the clerical operation is bogging down, or where some phase of present operations is an obvious target for an ideal application of electronic equipment? Are we considering the use of electronic equipment merely to displace present bookkeeping machines or punched card equipment? Or, by some chance, does the first phase of our work cover a thorough survey of all the clerical functions and of all of the information handling of our various activities such as purchasing, manufacturing, sales, and finance?

"In other words, have we realized that modern communications equipment is of such tremendous capacity that we really must make a long-term choice between two lines of attack?

"Some of us will nibble about the edges, probably making spectacular applications in particular areas, then reaping the satisfaction of having successfully patched the present corporate machine. Others of us will take more time, use more people, and spend more money but may come up with a drastically new and fresh approach to our company's problem of data processing." Mr. Wynne listed four aspects of improving communications: "First, we should learn how to eliminate unnecessary data. Second, we must arrange to control and to limit the flow of information. At this point we should have both broad diagrams and specific charts of the flow of information in our company. Third, we should learn how to measure the volume of information to be transmitted, for this will tell us the order of communicating machines and channels which we will need.

Proper equipment required

"Fourth, we will search for equipment available on more than one basis —purchased, leased, or supplied by a public utility. Our choice among these will have to balance occasional superior production rates against our best estimate of obsolescence. Having selected the equipment, we will rediagram our company's problem on an engineering basis—forecasting cost, utilization, and its ability to absorb breakdowns through planned alternate means."

The speaker suggested approaching the elimination of unnecessary data by asking these questions: What information do you receive from other people? Why do you need it? What do you do with it? What information do you generate here on your job? What tools do you use in connection with this work? Do you know of the alternate equipment which might be used? To whom do you pass on information? Are you sure that he requires it? Does he have to have quite as many of these data as you now forward to him? Are

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you sending it by the cheapest method of transmission which is available, yet which is adequate for his requirements?

By way of checking the handling of information, he brought up these questions: Does the system drop out each item of information at the first point where it is no longer needed? On those items which do have to be repeated, could there be found economies in accomplishing this repetition by mechanical means?

The speaker also discussed, in some detail, a number of new technological developments and advised becoming acquainted with them and with the principles which enable them to work. "Try," he said, "to avoid superimposing a particular piece of hardware on one of the organizational units of your company. Instead, analyze the information problem and minimize the quantity to be handled before attempting the big step of selecting your machines and making the installation."

In a session on Monday afternoon, W. Gilbert Brooks, Chief Time Study Engineer, Pitney-Bowes, Inc., discussed "Measuring Office Operations for Incentives." Mr. Brooks described in detail how incentive programs had been successfully put to work at Pitney-Bowes. But, he cautioned, "By themselves, incentive plans do not produce any real results. It is only when they are part of a coordinated program of improving office systems and procedures, increasing the mechanized portion of the office work, proper training of office supervisors and office employees, a better understanding of the needs of office workers, and meeting those needs through improved human relations programs, that an incentive plan can be really successful."

One of the biggest problems, he stated, is conditioning office workers to time measurements: "The technical problems of clerical work measurement can be solved by any good industrial engineer trained in the field of shop incentive principles; however, it requires an exceptionally good industrial engineer with plenty of tact and diplomacy to take on the job of conditioning the office employees to time measurements."

Mr. Brooks said that Pitney-Bowes decided that the first group to be placed on an incentive plan should be a fairly large, homogeneous office group, performing work which was fairly repetitive and routine. In particular, he said, it was considered important that a group be found whose supervisor would be receptive to the idea of incentives.

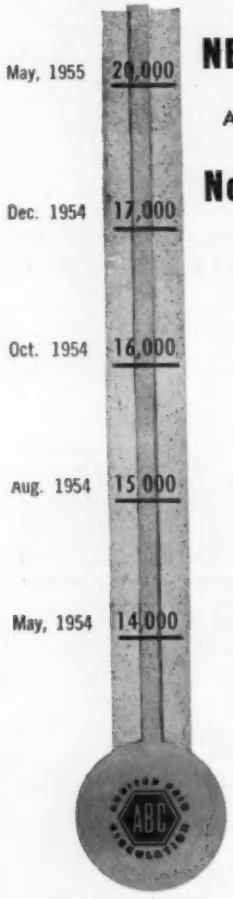
Meetings were held with supervisors and employees; at these the company endeavored to show the workers how work simplification and methods improvements would make their jobs easier and more productive. A special point was made of presenting the explanations in the simplest and most non-technical terms.

Measurements vital in incentive plan

A vital factor in the program, the speaker said, was the selection of a timekeeping procedure "that would provide the proper controls without being cumbersome, hard to administer, or costly to operate." For the measurement of transcription work, it was found best to use an extra copy of typed material to obtain information on the amount of work done. Analysis showed that all material fell into line lengths of 5½ or 6½ inches, which gave a basis for measurement. Other movements, such as changing a cylinder, could be measured in terms of an equivalent number of lines, as determined from observation.

One of the problems faced in apply-

22,000*



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ing measurements to the office, said the speaker, is that of morale. White collar workers, he noted, tend to resent any move that seems to place them in the same category as factory workers. Accordingly, it was decided to try the honor system for job time recording. Mr. Brooks said that he was sure this decision had much to do with the success of the program: "It helps to prove to the employees that we are fully recognizing their inherent honesty and more or less places the responsibility for the continuance of this system strictly up to them."

Standards increased gradually

It was discovered that employees were actually working at about 65 per cent of the standard developed for them. While no deductions were made from pay for failure to perform up to standard, bonuses were given only when work passed 100 per cent of standard. For a time it appeared that the goal was so far away that the workers made little attempt to improve their production. Therefore, it was decided to set up a "break-in allowance." By this means the amount of work required to earn bonuses was gradually increased, so that workers could work themselves up to standard, and above, by a gradual climb. This arrangement proved successful.

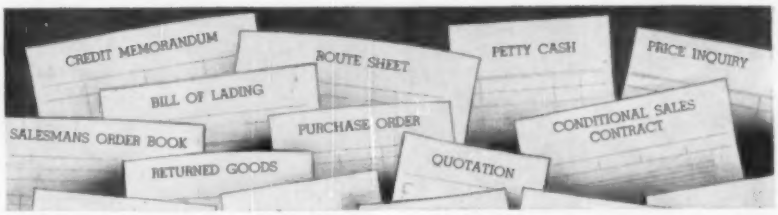
Mr. Brooks listed four problems as the chief obstacles to the success of an incentive program. "(1) Fear of the unknown, due to changes in work methods and the alteration of work routines; (2) Resemblance to factory work, with its resultant loss of white collar 'prestige'; (3) Lack of sufficient motivation for earning higher pay; and (4) Objection to being watched.

Solution of these problems required a great deal of time and effort, stated the speaker, but it was well worth while. The first three were approached as indicated above. The fourth ceased to be a problem after the workers got used to seeing the time study representatives in the office. "Much of the credit for this," he said, belongs to the time study men and their continued efforts in explaining and selling the fairness of the incentive plan."

To answer those who complained about pay differences between those working on incentive and those not doing so, (since some areas do not lend themselves to this approach) it was pointed out that the plan was not

(*To page* 53)

Which of these many



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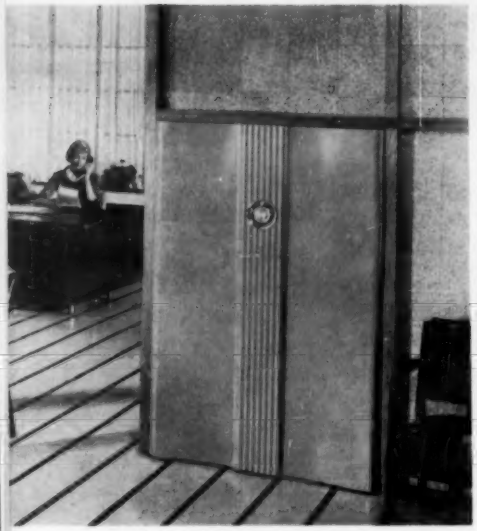
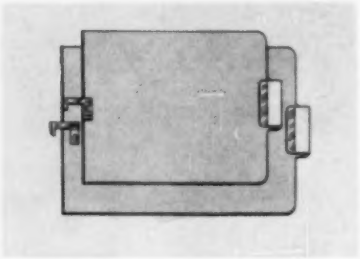


◀ Air conditioner

Carrier Corp., Syracuse 1, N. Y., has introduced the Self-Contained Weathermaker, for use with or without plenum, and which can be installed without modification for ductwork. Return air can be brought in through front, rear, bottom, or sides. **(A-1)**

▲ Portable photocopier

The 1956 models of the Contoura have a light source strong enough to allow use of copy paper less sensitive than usual. The unit has a "spine edge" feature to assist in copying pages from thick books. It is made by F. W. Ludwig, Inc., Old Saybrook, Conn. **(A-2)**



◀ For shelf filing

G. J. Aigner Co., 426 S. Clinton St., Chicago, has brought out a new line of open shelf filing guides in letter and legal sizes, with or without metal hooks. Plastic tabs have large windows open on both sides. **(A-3)**

◀ Dictating machine

Infra Electronic Corp., Roseland, N. J., has introduced a new plastic disk dictating machine with center index, microphone controls, and two speakers, one in the microphone. **(A-4)**

New for the office

◀ Movable partitions

Unistrut partitions, made by the Unistrut Products Co., 1013 W. Washington Blvd., Chicago, feature steel channels into which paneling materials of all varieties can be inserted. **(A-5)**

▲ Electric stapler

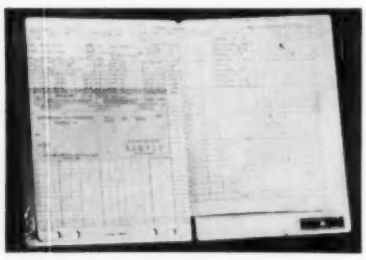
The Staplex Co., 777 Fifth Ave., Brooklyn, N. Y., offers the Stapl-A-Matic, a new model that holds 5,000 preformed staples of standard size (½ in. wide, with ¼ in. legs). It has a reach of 9¼ in. and is solenoid-operated. **(A-6)**

▼ "Slave" typewriter

Underwood Corp., 1 Park Ave., New York, announces the Solenoid Typewriter, which can be connected to electrical instruments, such as pressure gauges, to type records of instrument readings automatically at 11 characters a second. **(A-7)**

▼ Payroll system

This "one-writing" system for the preparation of check payroll and cash payroll records, including checks, is a new product of the Safeguard Corp., Lansdale, Pa. It can also be used for general disbursements. The system uses pre-shingled checks and a folding board. **(A-8)**



If further information is desired, use Reader Inquiry Card on page 78.

▶ Printing calculator

The Classic 10-key printing calculator is made by Classic Calculators, Inc., a subsidiary of Rex-Rotary Distributing Corp., 19 W. 31st St., New York. It has short-cut multiplication, two registers producing separate totals from one keyboard, and also grand totals. **(B-1)**

▶ Systems duplicator

This is the model RES-4 systems duplicator, recently introduced by Rex-O-Graph, Inc., 7840 W. Hicks St., Milwaukee. It is of the spirit type. Features include end feed, foot pedal control, block-out slot, accurate registration, and elevated receiving tray. **(B-2)**

▲ Check machine

The new Royal Companion Sign-O-Meter is a product of The Hedman Co., 1158 W. Armitage Ave., Chicago. It signs and dates, in one operation, single, duplicate, or triplicate checks, and can be used with a check protector. **(B-3)**

◀ Offset duplicator

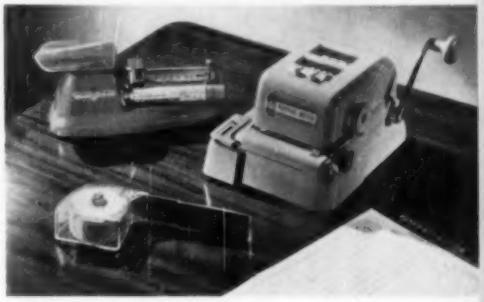
A. B. Dick Co., 5700 W. Touhy Ave., Chicago, offers its first offset duplicator, the Model 350. Its Aquamatic control is designed to make it easy for inexperienced operators to maintain proper balance between ink and fountain solution. It has self-adjusting cylinders, simplified controls, and can produce 9,000 copies an hour. **(B-4)**

▼ Automatic line finder

The Standard Register Co., Dayton 1, O., offers an Electric Automatic Line Finder for use with electric typewriters and bookkeeping machines. At the touch of a key, it advances a form automatically any pre-determined number of lines. **(B-5)**

▼ "Mailing center"

Designed for small offices, this "package" of mailing equipment is made by Pitney-Bowes, Inc., Walnut & Pacific Sts., Stamford, Conn. The main items are a Model DM postage meter and a 16-ounce computing mailing scale, a postmark advertising plate, a postal rate and information chart, and a parcel post zone map. **(B-6)**



▼ Word writer

This electric typewriter can print whole words at the touch of a button. It is a new development of International Business Machines Corp., 590 Madison Ave., New York. It consists of a standard electric typewriter connected to a control panel in the left hand drawer of the desk. This panel has a memory system in which 42 stock phrases are stored, with an 18-character capacity for each. The operator uses a simple code to instruct the machine to type any desired phrase. The device provides automatically for correct hyphenation should a word appear at the end of a line, and for automatic capitalization of words at the beginning of sentences. Called the Wordwriter, it is an experimental model, not on the market. **(B-7)**

If further information is desired, use Reader Inquiry Card on page 78.

▲ Executive desk

This desk and cabinet combination is manufactured by H. Sacks & Sons, 667 Madison Ave., New York. The desk top is 84 in. long and 34 in. wide. This is one of a series of "Directional" designs by Paul McCobb. **(C-1)**

◗ Acoustical panel

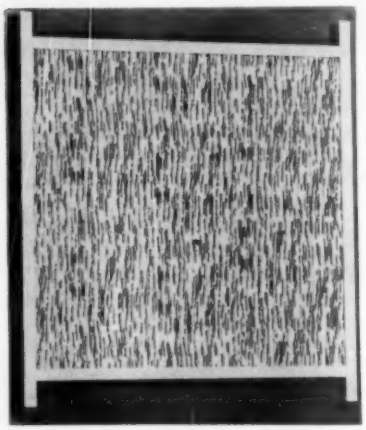
The Celotex Corp., 120 S. LaSalle St., Chicago, has introduced a new product called Stria-Colored Steelacoustic. This is a steel panel having a white baked enamel surface with overlay striations of black, green, or brown. It is backed by a sound-absorbent laminated material. The panels are designed for use in suspended ceiling systems. **(C-2)**

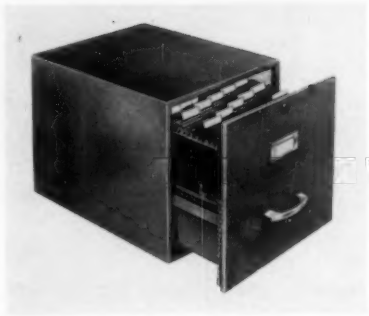
▼ Office chair

The B. L. Marble Chair Co., Bedford, O., offers the new Pace Setter line of five office chairs of Modern Swedish design. A walnut wood finish is used, with tweed, cord, or leather upholstery in various colors. **(C-3)**

◗ For coffee breaks

A new feature, color-matched beverage and cup dispensers, is now available for use with the line of Hot 'n Cold Water Coolers made by the Ebco Mfg. Co., 265 N. Hamilton Rd., Columbus, O. The cup dispenser holds 75 paper cups in an inverted position, and the beverage dispenser is offered with three or five shelves. The unit dispenses hot and cold water. **(C-4)**



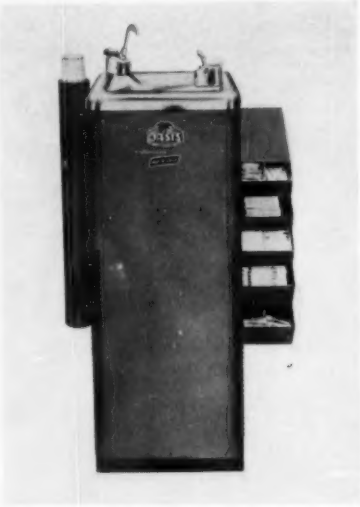


▲ Insulated file

The Vault File is offered by Dolin Metal Products, Inc., 315 Lexington Ave., Brooklyn, N. Y. It has heavy steel walls, air chambers, and asbestos insulation on all outside faces, and is equipped with a cylinder lock. It is offered in letter or legal sizes, in green or leathertone finish. **(C-5)**

◗ Credenza

A new line of office-cabinet units, made by Art Metal Construction Co., Jamestown, N. Y., is designed so that separate units can be combined under a flush top to create a single unit. The sliding glass doors on the model shown are mounted in Ancorene plastic tracks made by Anchor Plastics Co. **(C-6)**



▼ Fireproof chest

Five new fireproof chests and safes have been marketed by Lyon Metal Products, Inc, Aurora, Ill., of which the model shown is representative. Four of these are designed to withstand a 1700° fire for one hour. These are a storage chest, an indexed vertical file chest, a wall safe, and a floor safe. **(C-7)**

If further information is desired, use Reader Inquiry Card on page 78.

(*From page* 21)

of workers, raising problems that must be met jointly by management, labor, the affected community and the Government.

Eugene Miller, associate managing editor, *Business Week* magazine, New York, said that the fears created by the short-term effects of automation demand a new approach to public relations in making automation palatable to employees, labor generally, and the public.

He suggested that companies use the same communications media employed in other programs and emphasize the management viewpoint that automation, while it may mean temporary job displacement, will eventually create "more jobs, better paying jobs, and jobs demanding higher skills."

"One rule most companies with experience under their belts have observed is not to announce the purchase of automation equipment until their employees have been briefed or told about it through company publications, news releases, or bulletin board announcements," Miller said. "There's nothing deadlier than for employees to read about the news first in their daily newspapers."

The third afternoon speaker, J. N. Stanbery, Vice-President, Personnel, Illinois Bell Telephone Co., Chicago, discussing the "Influence of Automation on Personnel Practices", outlined some of the measures used by the telephone company in accustoming personnel to the changeover made when dial systems replaced many central switchboard operators. These included making clear to new employees that employment was on a temporary basis, re-training employees for new jobs within the company or sister companies, adjustments in the termination payments given employees, and soliciting positions in outside concerns for displaced employees.

Discussing automation's effect on the organization of business, Charles B. Laing, vice president, The Prudential Insurance Company of America, said that a survey taken by his company had indicated office automation will mean the transfer of a "considerable amount of accounting and other clerical work from units now decentralized to central electronic data processing centers, but that it will not interfere with the trend toward decentralized management, as opposed to decentralized processing.

Most of the companies surveyed also believe, Laing said, that:

The use of electronic data processing machines will bring about a great improvement in the control of decentralized units.

Automatic equipment, while increasing the need for the transmission of data from one part of a company to another, will actually result in the faster transmission of more complete information to decentralized management.

Office automation tends to free decentralized management from the close supervision of routine office work, making management itself more effective.

Thus, though it may seem contradictory, he concluded, actually, centralization of data processing facilities under automation can lead to greater decentralization of operating responsibilities.

The final Monday speaker, Dr. Thornton F. Bradshaw, partner, Cresap, McCormick, and Paget, New York, also discussed the effect of automation on company organizational structures, saying that centralization of routine clerical functions without any concurrent need to centralize management responsibilities seemed an inevitable outcome of automation.

Monday evening was devoted to an open panel question and answer session in which William H. Moore, Joint Committee on the Economic Report, Washington; Mr. Clague; Mr. Hansen; Mr. Laing; and Mr. Stanbery served as the experts.

The Tuesday program opened with a talk by J. H. Euston, vice president, Business Research Corporation, Chicago, on "Evaluating Automation's Place in Your Business." Office automation, Euston said, should be evaluated from four basic viewpoints:

Automation is a method

Automation has certain new powers

Automation has its own principles of application

Automation saves in specific ways.

Situations adapted to automation

Some business situations are more favorable to the application of automation than others, he told the audience. Among favorable situations he listed:

Large volume, repetitive tasks.

Highly complex planning and operating situations.

Rapidly changing economic situations requiring continuing adjustment of buying and manufacturing in relation to fluid market demands.

"Top Management Decisions and their Importance to a Program of Automation", was discussed by the next program speaker, Edward L. Wallace, School of Business Administration, University of Buffalo. He warned that exploiting the potential of automation to its fullest advantage calls for imagination and a broad, flexible viewpoint on the part of management.

"The fundamental decisions of top management bear upon the results it expects or hopes to obtain from a program of automatic data processing," he said. "A narrow conception of such a program is reflected in the types of personnel selected, the approach employed, and the results ultimately obtained. Clerical economies may be realized under such a program, but even these are frequently less than might otherwise be possible."

The desirable approach, he said, is for management to recognize the unproved potential of the new equipment available, and approach its use as it would a true research project.

"That is not to say that such managements are not interested in clerical economies," he declared, "but that they recognize that such savings are only a part of the entire potential."

It is imperative that the very high-

Tools of the Office

Because the January Yearbook Issue of *Office Management* will contain an extensive "Tools of the Office" section covering most of the principal categories of office equipment, the regular monthly installment of that feature has been postponed until next month.

News pictorial

◀ Electronics on the highway

Users of the new Ohio Turnpike speed through the toll stations quickly and easily as a result of the use of electronic equipment to determine the charges they must pay. The special equipment, manufactured and installed by the International Business Machines Corp., uses weighing platforms and photoelectric eyes to obtain the vital facts. A vehicle approaching the toll booth passes over a weighing treadle built into the pavement. Here it is weighed while still in motion. Meanwhile, a photoelectric detector counts the number of axles. The toll collector at the same time inserts a card in the toll recorder and presses a button corresponding to the number of axles, which he has counted visually. The photoelectric eye double-checks him, and the recorder locks automatically if the wrong key is pressed. The card, showing the appropriate fare, is then given to the driver to be presented at the exit gate when he leaves the turnpike. The vehicle is measured again electronically at the exit booth for purposes of verification. The fare cards are then processed by IBM accounting machines as a source of basic bookkeeping information.

▲ Prize winners

At the left, Hugh L. Clary, president of the Clary Corp., accepts a plaque from Peter J. B. Stevens (right,) managing editor of the magazine *Design News,* as R. H. O'Brien, executive vice president of Rogers Publishing Co., looks on. The plaque was awarded "for achievement in modern design and mechanical excellence" as displayed in Clary's new ten-key adding machine. At the right, Harold Camp, vice president for finance, of Pitney-Bowes, Inc., receives a bronze "Oscar," awarded by *Financial World* for the best 1954 annual report in the office equipment industry. The award is being made by Weston Smith, of the magazine.

▼ Paul Holly (second from right) of Aldens, Inc., president of the Office Management Association of Chicago, congratulates George Handtmann, of the Continental Illinois National Bank & Trust Co., winner of OMAC's annual golf outing at the Rolling Green Country Club. At the left is Arthur Poliquin, of the Art Metal Construction Co., and at the right is George Roubik, OMAC secretary.

est levels of management make it their business to acquire a working knowledge of the factors involved in electronic data processing, the next speaker, Arvid W. Jacobson, Wayne University, Detroit, told the group, because a conversion to automated data processing affects every facet of a business "too vitally and too intimately to be entrusted to lower level leadership."

Training computer personnel

The speaker stressed the opportunities open to top management to acquaint itself with the potentials of new equipment and techniques as well as to train its personnel in their use through seminars and training courses offered by universities.

Discussing staffing for a computer installation, Jacobson said that the day-to-day operation of a data processing system does not usually require personnel of a college level, but that for many tasks associated with problem preparation, trouble shooting and supervision, more than a high school education is essential.

"In addition to the group performing primarily routine tasks, every installation should have higher level personnel," he pointed out.

Gordon R. Corey, vice president, Commonwealth Edison Co., Chicago, discussing "Organization for Conversion to Automation", outlined the subject in terms of his own company's experience. Centralization and mechanization of accounting activities had already laid the groundwork for future automation by 1950 in Commonwealth Edison, he recalled. The company made an analysis of the potential savings that might be achieved through a computer installation, and decided they were great enough to justify ordering an IBM 702 by 1953.

The computer was scheduled for delivery in July, 1955, leaving the company with approximately two years' time to organize for the conversion. The first programming job was to decide exactly what work would be included in the computer system, after formation of a procedures and programming group. Then the detailed operating instructions and programs for the computer to follow in the operations it was destined to take over were worked out.

"It took longer to settle all questions and prepare the overall flow charts, on which the final computer procedures are based, than we had anticipated," Mr. Corey declared. "The development of computation procedures and programs required 35 man years—nearly double the original estimate of 20 man years. The debugging operation took nearly 15 man years and 1,000 computer hours—again substantially longer than we had anticipated."

Next the company had to organize its staff for operation of the computer and decide which jobs were to be considered employee positions, which management. It also had to prepare its line personnel throughout the company for computer operations, which it did by an extensive training program, according to Mr. Corey.

Basic organizational changes in the company's management structure were made with the initiation of computer operations, the speaker said, with particular changes in the Comptroller's, Treasurer's, and Secretary's Departments.

'Automation—Now or Later?"

The last three speakers of the morning session, George D. Hudson, A. T. Kearney and Co., Chicago; E. J. Cunningham, Monsanto Chemical Co., St. Louis; and A. C. Vanselow, Franklin Life Insurance Co., Springfield, Ill.; all covered the topic "Automation—Now or Later?"

Mr. Hudson said that the major "question regarding automation is not 'when', but 'to what degree'?"

"There are fertile fields in most businesses that are directly reached by reducing overhead—by invading the areas of work duplication—and by decreasing error costs," he declared. "Notwithstanding the fact that there is tremendous appeal in the claims made for electronic data processing, it is still so new from an experience point of view that I advise caution in all cases. This caution is particularly stressed for those firms which have had little or no experience with other forms of mechanized accounting.

Basically, he said, the present high cost of data produced by electronic processing methods makes it advisable for small and medium-sized companies to approach computer installations very slowly, leaving the risks of experimentation and initial high costs to be assumed by large and well financed organizations.

Mr. Cunningham, after reviewing briefly Monsanto's experience with a computer installation, reported:

"We installed an IBM 702 early last spring. This equipment is doing everything we expected of it. We are getting our reports out earlier. We are getting better reports and furnishing management with infortion they never had before."

Define objectives first

Discussing the wisdom of any individual company's installing a computer, he said:

"I believe if you tackle your problem in logical steps, you will automatically reach the point where it will be self-evident whether you need a computer or not.

"First, define your objectives. If you are now accomplishing everything you want to do, efficiently and economically, you have no further problem."

If not, he said, the next logical step is to investigate various methods of bettering operations. "After you have exhausted the possibilities of standard equipment, it is possible, though not probable, that all of your needs will be satisfied without going further. You can then decide how much further along the line the available computer can take you, and what size and type you need," he continued.

"I strongly urge each of you here today," the third speaker, Mr. Vanselow, said, "to begin your study of electronic data processing as soon as possible, due to the tremendous task ahead of you. It will take a considerable amount of time to analyze the present procedures which you feel are applicable to a computer.

"An electronic program initiated now will stimulate an intensive amount of creative thinking by your entire organization which will not only pay for itself, but will permit your company to gain some actual experience

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in the techniques of electronic data processing now which will enable you to cope with the future growth of your company."

He recommended that every member of the conference urge his company, if it should be considering electronic data processing at all, to:

1. Analyze and improve present procedures on an integrated basis cutting across department lines.

2. Mechanize all data required in an electronic system by converting present manual records to punched cards as an intermediate step.

3. Study and convert its present system to use code designations in order to provide for efficient handling by electronic data processing systems.

4. Begin to select individuals in the organization qualified for an important role in an electronic data processing installation.

5. Take advantage of training courses offered by manufacturers.

6. Determine the justification for electronics in terms of the company's own needs and work volume.

"Don't wait for other companies"

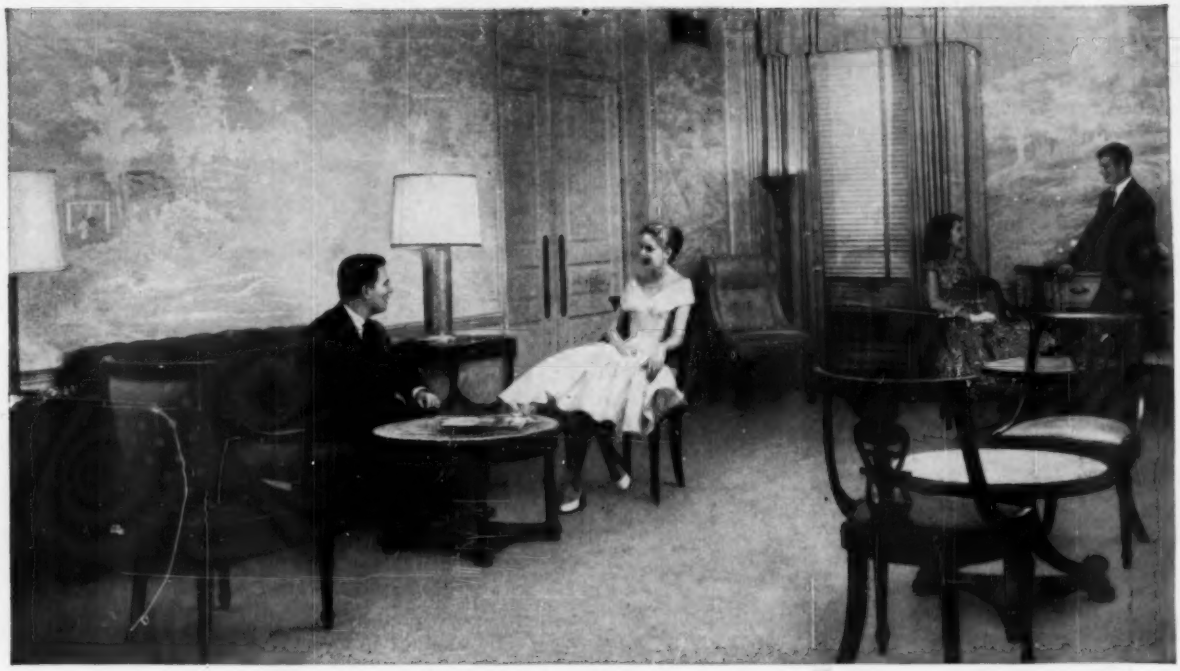
"Do not wait for other companies to do all the pioneering," he advised in contradiction to the advice of Mr. Hudson. "You may find you will be unable to meet the low cost of operation and prompt service provided by your competitors who are using electronic data processing systems."

The Tuesday luncheon speaker was General Clinton F. Robinson, president of the Carborundum Company, Niagara Falls, N. Y. General Robinson outlined the development of the policies in his company which have been formulated to prepare for the introduction of automatic data processing facilities.

Tuesday afternoon was devoted for the most part to six concurrent panel discussions on specific applications of office automation in various types of companies. The company types covered were: Manufacturing, Merchandising, Insurance, Financial Institutions, Utilities, and Transportation.

Following the panel discussions, the registrants met again for the last address of the conference, a talk on "The Importance of Data Processing to the Senior Officer" by Richard L. Kraybill, managing editor, *Dun's Re-*

(*To page* 51)



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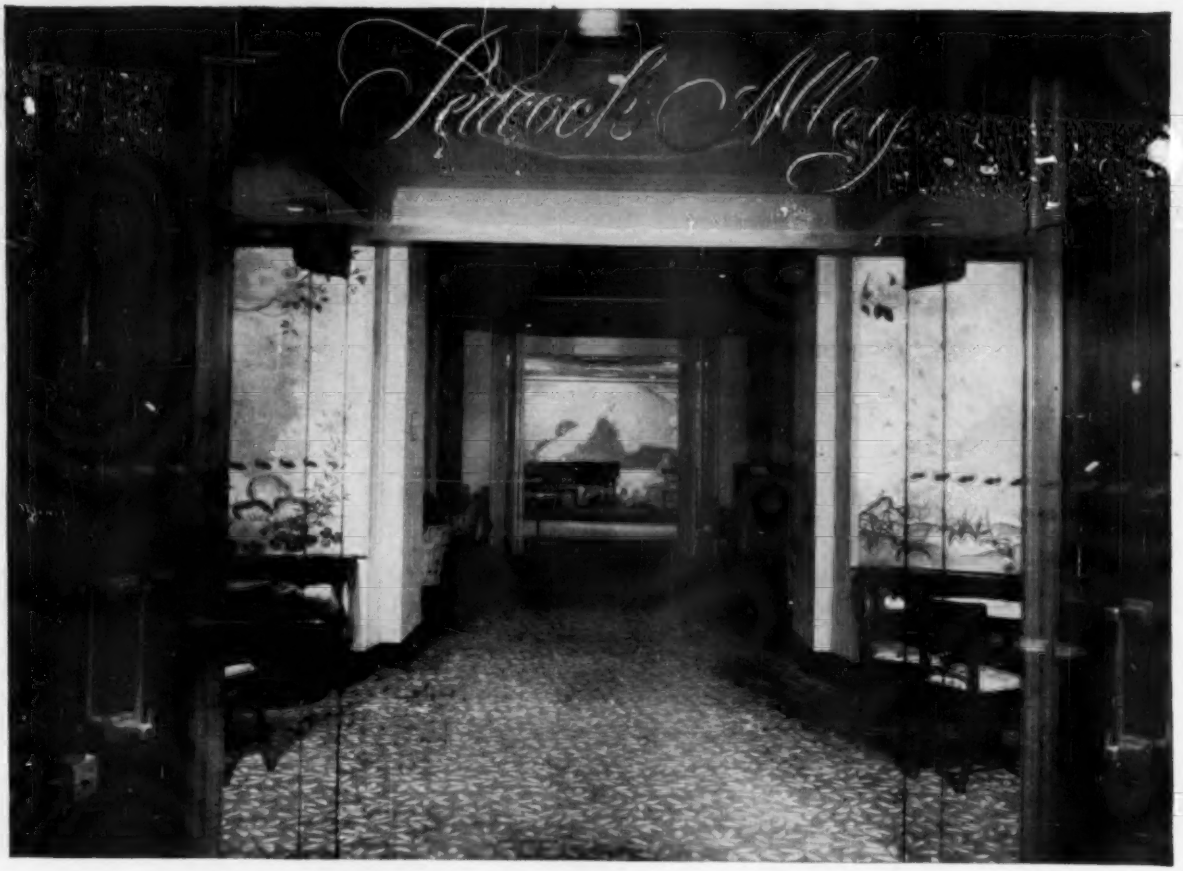

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Automation meeting—

(*From page* 48)

view and Modern Industry, New York.

Delegation of responsibility in planning for electronic data processing installation is a risky procedure unless two cardinal principles are observed at all times, he emphasized. These are:

"The top executive is in fact as well as in name the source of all authority.

"The lines of communication are so well recognized and so broad that the flow of information is swift, free, and direct up and down the line.

"The trouble is the more we delegate the farther away from those two principles we go," he continued. "I would like to emphasize that the problem of delegation or of 'who does what' can usually be solved by a careful study of what is to be done rather than simply looking for the man who happens to be available at the time."

In any event, in a well organized program the top executive must soon be " in the matter up to the hilt", he said, citing as the reason five main considerations:

1. Whether it is by a careful evaluation of the possible payoff or by competitive pressure, more and more top management people will find themselves facing the problem of introducing integrated data processing in their own companies.

2. It cannot be dismissed as unimportant because it is an element of every company activity and appears through any scale of values the president may establish for all functions of the company.

3. The action must be initiated by the president because no matter how limited the application may be, it will affect the entire company and not just one department. It is a company goal.

4. The authority for the action must spring from the top executive level or else every departmental line will become an insurmountable obstacle to getting the work done.

5. When top management gets in it this far it will have to stay in it because every act or decision is so closely connected with interdepartmental relations, with company policies, or with organization structure that only a minimum of delegation can be satisfactorily introduced.

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SPA conference—

(*From page* 41)

a giveaway—workers were rewarded only when they had honestly earned it. Moreover, not all workers wished to work on an incentive basis. Thus, it was often possible to arrange transfers for those desiring an opportunity to earn a bonus.

According to Mr. Brooks, the biggest problem consisted of training supervisors to handle a group working under an incentive plan. He said, "We try to show them that a group under incentive transfers the drive to get work out from the supervisor to the employee. We also try to show them the importance of pre-planning the work of their section, of eliminating peaks and valleys of work load, and the importance of training their employees in the best way to perform their jobs."

The Pitney-Bowes program was started seven years ago. At present, stated Mr. Brooks, 124 of the 450 office employees in the home office are on an incentive basis. It is hoped to double that figure in the next few years. Work being done on incentive includes typing, calculating, preparation of order forms, filing, duplicating work, collating, stapling, binding, sorting and distribution of mail, computing and preparing payrolls, record maintenance, and many other types of work. The company, he said, estimates that "the annual savings from all of our office incentive installations now amounts to about $120,000 per year, and this is after deducting the cost of installation, maintenance, timekeeping, and incentive earnings."

Experience with electronics urged

A series of papers on electronics in the office, presented on Tuesday, began with a discussion of "Challenges to Management in Current Electronic Developments," by Dr. John W. Mauchly, Director of the Univac Applications Research Center of the Eckert-Mauchly Division of Remington Rand, and co-designer of Eniac, the predecessor of Univac.

Dr. Mauchly stressed the importance of acquiring experience with electronic equipment. The sooner more people get more experience with it, he said, the sooner we will know what can be done with it. He suggested also that operations research experts would do well to work with computer people; such cooperation would work to the benefit of both.

The speaker noted that management has become accustomed to providing factory workers with good equipment, knowing the investment to be profitable. This has not been true, he said, in the office, and this bias tends to work against the productivity of the office worker.

While advocating the introduction of electronic equipment into offices that can use it, Dr. Mauchly said, "To do a job by electronics is not necessarily to do it better." There is no point in introducing a vacuum tube into a process unless it does something that cannot be done without it. A particular virtue of the vacuum tube, he stated, is its speed, but it is not speed itself that is important; rather it is the economies that are possible through rapid data handling.

Control, not speed, is stressed

What business should be looking for, he declared, is better control of information, rather than mere speed. Morever, management should be aware of the possibilities for doing more valuable types of work that were not feasible heretofore, and not merely in doing old jobs faster.

Among other virtues of the computer, according to Dr. Mauchly, are its high accuracy and its adaptability to many different operations. It stands in strong contrast to factory

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machines, which cannot be made to perform different types of jobs without time-consuming and costly retooling.

How a giant computer works out

A report on the first year of operating a Univac at the Metropolitan Life Insurance Co., New York, was given on Tuesday afternoon by John Finelli, Third Vice President in the Electronic Installations Division of that company.

Metropolitan, he said, decided that the best area in which to begin computer operations would be one in which there would not be too much changing of procedures and in which the complications of making changes would not seriously impair the work of the company. It was felt that it was best to begin in the actuarial department in operations that occur after customers have been taken care of.

The company has now had 3,700 hours of operating experience with Univac, said the speaker. The central computer is operated for two forty-hour shifts a week. Although 30 per cent of the work load has been of a sorting nature (for which magnetic tape is not ideally suited), he commented, substantial economies are already being made. The work itself has been of a varied nature.

Mr. Finelli broke down the operating time of the computer as follows:

(1) Productive work, 55.4 per cent. This covered the periods in which the equipment was assigned to regular routine work.

(2) Working out and debugging programs for new procedures being converted to computer operation, 20.7 per cent.

(3) Correcting and improving the original programs, 8.7 per cent. Mr. Finelli pointed out that some mistakes had been made in the initial programming, and that experience had shown better ways of performing certain operations.

(4) Repetition of work spoiled as a result of machine breakdown, 7.2 per cent.

(5) "Down time," while the equipment was being serviced by an engineer, 4.3 per cent.

(6) "Lost" time, which covered a variety of things, such as operator errors, 3.7 per cent.

System proves 88 per cent effective

On the whole, the system was considered to be providing an actually effective time of 88 or 89 per cent. It has been possible, said the speaker, to perform necessary preventive maintenance outside of normal operating hours—at night and on weekends. Actual down time because of machine failure, he said (in response to a question from the audience), consumed from 2 to 45 minutes on the average. These interruptions were not considered serious, and the two longest stoppages were for 10 and 11 hours respectively.

Some difficulty had been encountered, he said, with auxiliary equipment, but much was being done to improve its operation. Among the features which helped reduce down time were the introduction of test circuits. Originally, he noted, some had thought that the use of many extra circuits might cause the equipment to stop unnecessarily. Practical experience, he declared, had shown that the contrary was true; instead of being a nuisance, the extra circuitry had been invaluable.

Mr. Finelli stated that the inherent accuracy of the equipment was re-

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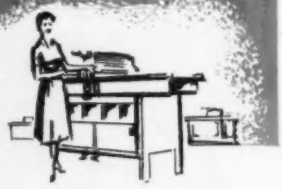

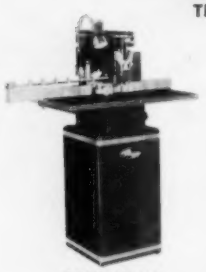

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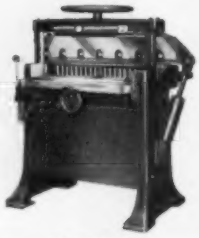

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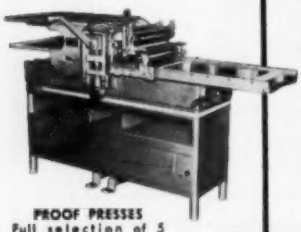

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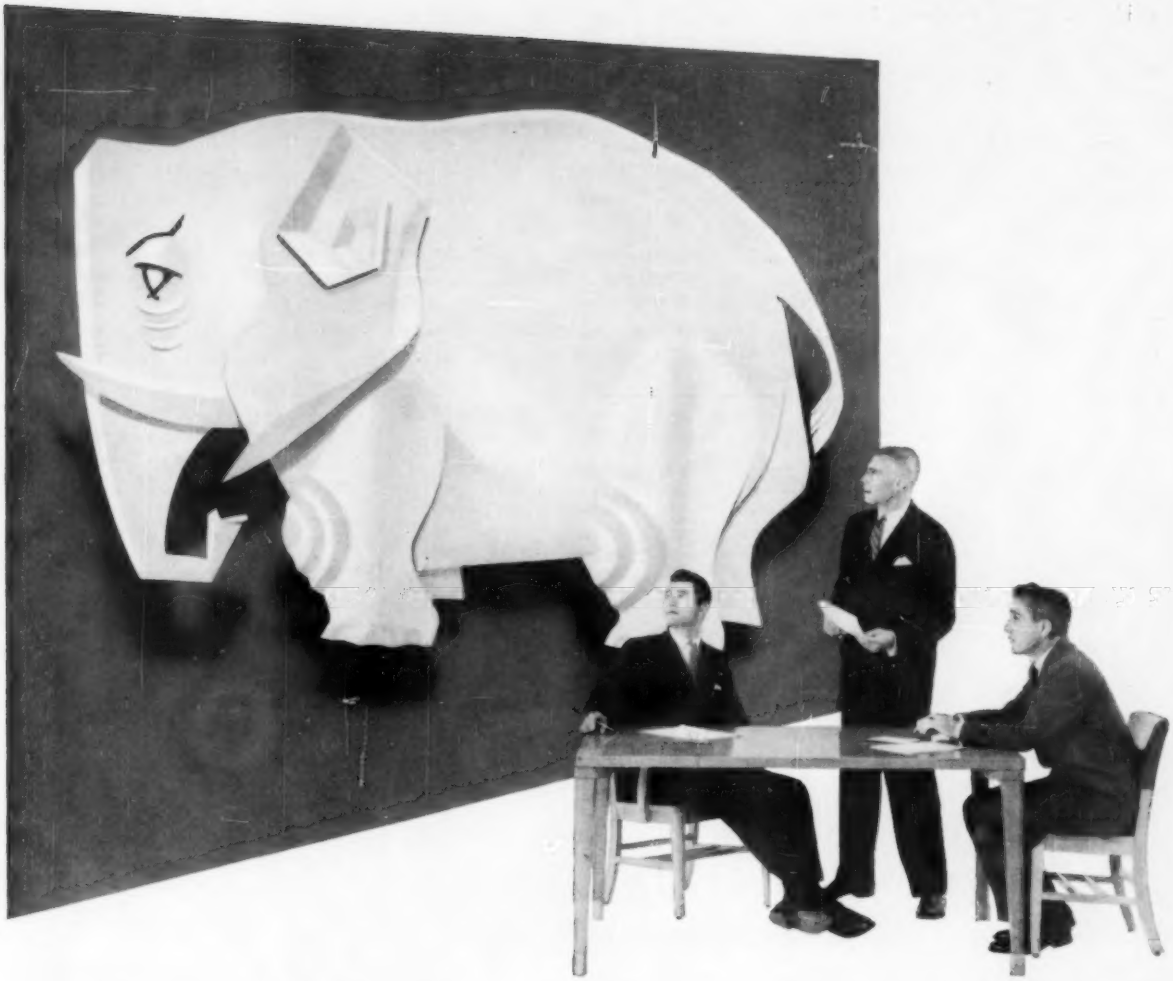

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Test #2 — How long does it take to find or file a paper in your organization? It should not take longer than 1 minute. If it does, your company probably needs a Records Analysis.

Test #3 — When you ask for a file by *subject* instead of by name do you get all the records pertaining to that subject — and are they in order for best use? A subject file is the backbone of a record-keeping operation — the source of vital facts for management decisions. *Untold dollars* ride on those decisions!

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markable. The company, he said, "had never known this kind of accuracy." He described the company's overall experience with it as "very gratifying."

Metropolitan looks for some mathematical background, he pointed out, in considering personnel for assignment to the equipment, but this is not considered essential. More important, it is felt, is familiarity with the various aspects of the business. Training has been obtained from courses conducted by the manufacturers and from practical experience on the job. As the company acquires more and more experience, he declared, it tends to substitute more on-the-job training for portions of the formal schooling.

Personnel readjustments must receive careful attention, said the speaker. It is as important to handle them well, he observed, as it is to set up the equipment. Metropolitan has discussed the situation frankly with its employees, and as far in advance as possible. The personnel preferences of individuals concerned have been treated with consideration. So far, he stated, no employee has been separated or asked to take a new job at less pay as a result of installing the equipment.

Answering a question from the floor, the speaker said that magnetic tape had proved to be a more delicate medium than had been anticipated. However, it had merely been necessary to handle it more carefully, and its performance had been good.

Five other papers were also presented during Tuesday. Among these, "Procedures for the Procedure Writer" was covered by Prof. Clifford I. Haga, of the Department of English, University of Minnesota.

Manuals need language of action

Prof. Haga urged that written procedures be put in a style, both of format and language, "as close to action as the written word can get, so that the moment the worker claps his eye on your manual he performs the specified task with that optimum combination of speed, accuracy, and good will by which we measure the efficiency of our subordinates and prove our skill as managers."

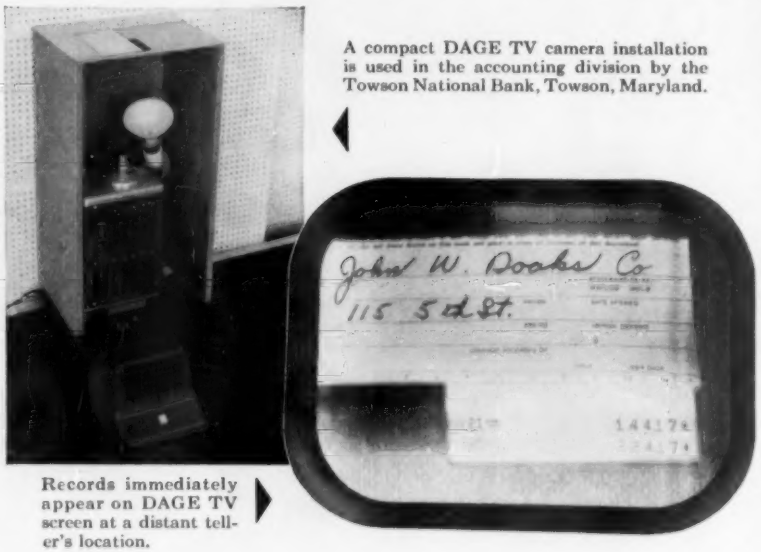
He observed that too many writers of manuals "have too many words, too many dead words, too many words suggesting too many irrelevant notions, too much of everything else but what an effective order for the performance of a routine task should have: emphasis on action."

Prof. Haga recommended that a writer should read his own work "as the reader reads." The author of a manual will naturally know much more about the subject than needs to be put in his instructions. He must resist the tendency to over-explain or to clutter the reader's mind with irrelevancies.

The speaker referred to six key words to be kept in mind when writing: what, why, when, how, where, and who. The "why," he said, is much overworked, but what, how, and when are particularly important.

If the writing is adapted to the reader, he said, and if the style used by the systems staff is consistent, many of the problems of giving instructions will be solved.

David Gindoff, C.P.A., of the Los Angeles firm of Gindoff and Berlfein, presented a paper on "Getting the



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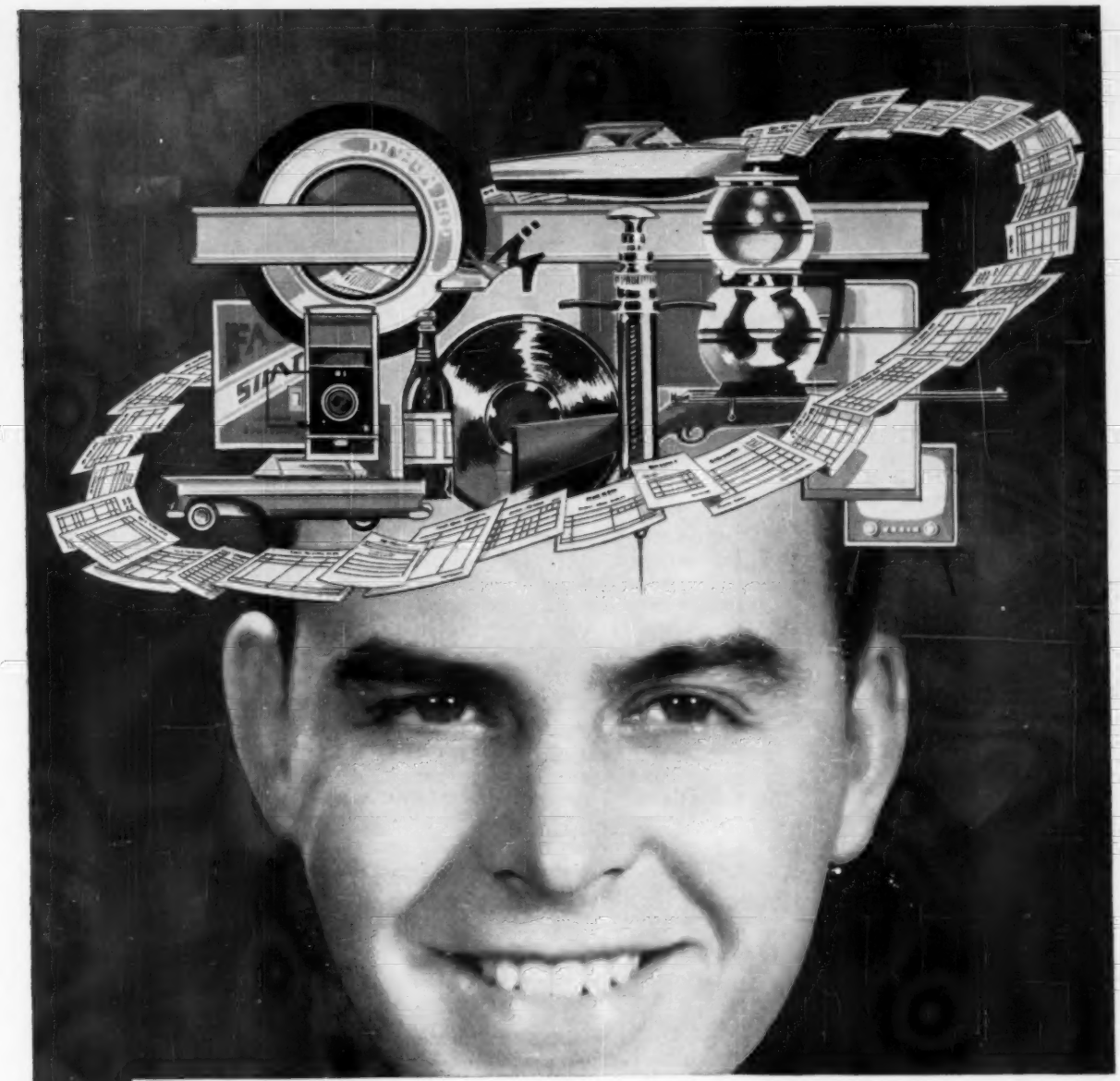

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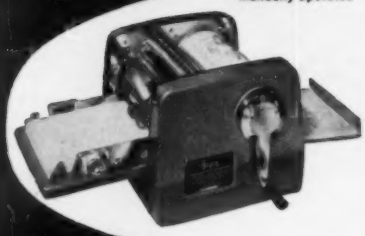

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Most Out Of Manual Methods."

Mr. Gindoff said that many business men assume that the cure for high office costs or unsatisfactory procedures is mechanization. But, he said, "manual methods are not being given a chance today. If a sorting problem presents itself, many assume thereby that a mechanical sorter is needed. If accounts receivable or payable grow in volume, the accounting machine is prescribed like aspirin for a headache. Newer and better manual methods are not being given the same consideration as mechanical methods."

The speaker commented on the advent of electronics in the office. "It appears that manual methods will assume great importance during the transition period to electronic data processing. It appears that presently designed machines will automatically process like masses of data, but will leave a very substantial amount to be processed manually. You would not use a ten ton truck to move one pound of earth. Now, with the removal of important segments of volume, it may not be economical to mechanize the transactions which remain. Furthermore, many of these are of such complicated nature as to make uneconomical their processing on electronic or other machines. When you have eliminated the masses of documents, the residue will be a group of transactions which generally require human judgment and which may not be of sufficient volume to justify mechanization."

Manual methods can be improved

He then discussed a series of typical clerical operations and indicated means in which manual handling might be improved. He noted, for example, a strong tendency to turn back to handwritten forms. "In our zeal to mechanize," he said, "we have indulged in much needless typing. But if handwritten records are to become widespread, an effort should be made to improve penmanship."

Mr. Gindoff gave considerable attention to the value of "strip methods," a term which refers to "the technique of designing forms in such a way as to permit the practical gathering or summarization of like data from forms by the arrangement of the forms without further posting of the data." As illustrations he cited the peg board and its variations and also various types of binders. He lauded their simplicity, economy, speed, versatility, and accuracy as being valuable in many operations.

Other examples of work-saving manual devices to which Mr. Gindoff referred included charts and slide rules in lieu of adding and calculating machines; the use of separate pieces of paper for listing single items or classes of data, in order to eliminate difficult sorting and listing problems; the use of duplicators, especially of the systems variety; and improvement of filing by the use of good guides, filing methods, terminal digit systems, and other means.

Computers will be "easy to live with"

At the banquet on Tuesday evening, Dr. Herbert R. J. Grosch, Manager of Investigations, Aircraft Gas Turbine Development Dept., General Electric Co., spoke on "The Interrelation of People and Electronic Computing Machines." Dr. Grosch said that all experience indicates that, contrary to what has been said by some, the computer will not make people obsolete. Things will get more and more complex, he said, and this increase in complexity will speed up. People will have to learn to enjoy the challenge of keeping up with progress.

Dr. Grosch predicted that computers would become simpler and easier to make. They will be easy to run and will be "easy to live with." The world of the future will offer more and better things, but people will have to learn to live with the excitement of the new age. Bookkeepers may become obsolete, he said, but not the systems and procedures people who plan how to keep the books. People will be needed for planning, whatever the machines may accomplish.

Decisions depend on communication

Among the papers presented on Wednesday morning was one on the subject, "A Central Intelligence Program for Management," given by Ray R. Epperts, executive vice president, Burroughs Corp.

Mr. Eppert stressed the importance of good communication if management is to make effective decisions. While executives could obtain all the facts they need by themselves if they had sufficient time, he said, as a practical matter, "management can derive meaning from facts if reporting is terse and compact; properly interpreted and presented; fact separated

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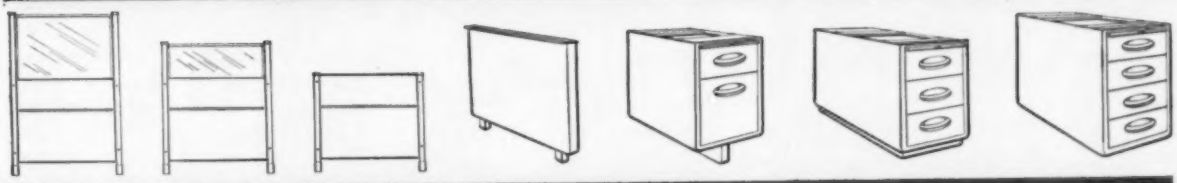

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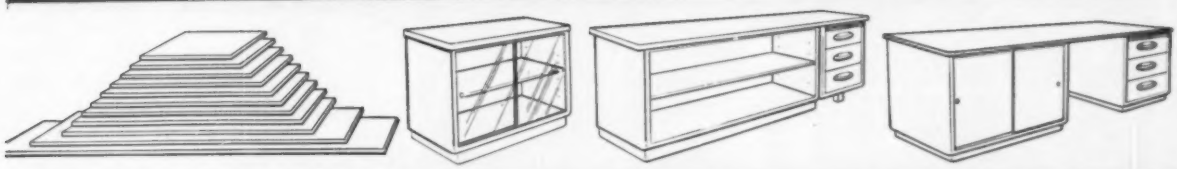

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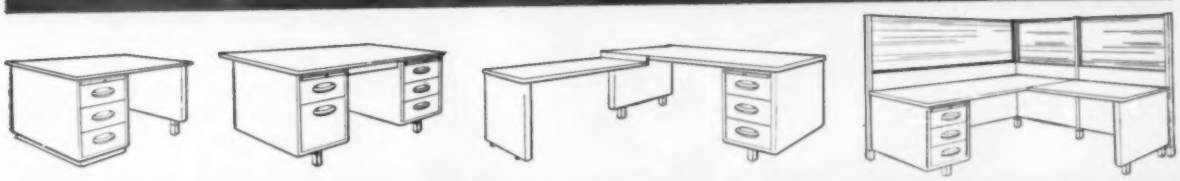

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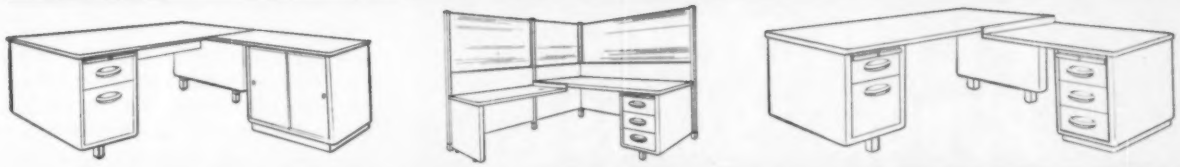

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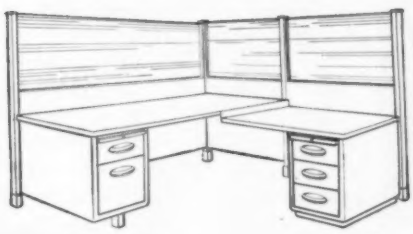

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from the merely plausible; and the decision alternatives clearly drawn."

Adequate job descriptions, he declared, are especially important in seeing that line organization is clear and that responsibilities and authorities do not overlap. If such responsibilities and authorities are clearly defined, he said, the flow of information can be channeled so that each man receives the information he requires—neither too much nor too little. He stated that "the reports which comprise the system of intelligence for planning and control . . . should be tailored to the executive receiving the report. It is, therefore, important to develop a reporting method that will provide all levels of management with data that gives both perspective and direction, reinforced by only that detail necessary for sound decisions."

A good report, he declared, should have three characteristics: "(1) It must be based on clearly defined lines of authority and areas of responsibility. (2) It must permit comparisons with some standard of performance. (3) It must make possible the quick and simple identification of any variation from these standards."

Reporting by exception can be helpful in indicating areas requiring attention, according to Mr. Eppert. He also mentioned the possibilities of operations research for providing the data on which decisions must be based. And he referred to the use of a small computer in his own company to determine how large a staff of salesmen it should have and what qualifications should be required of them.

"Gaining Up and Down Acceptance of the Systems Program" was discussed by Richard F. Neuschel, a principal of McKinsey & Co. The speaker emphasized the necessity of obtaining support for a systems program from both management and operating personnel.

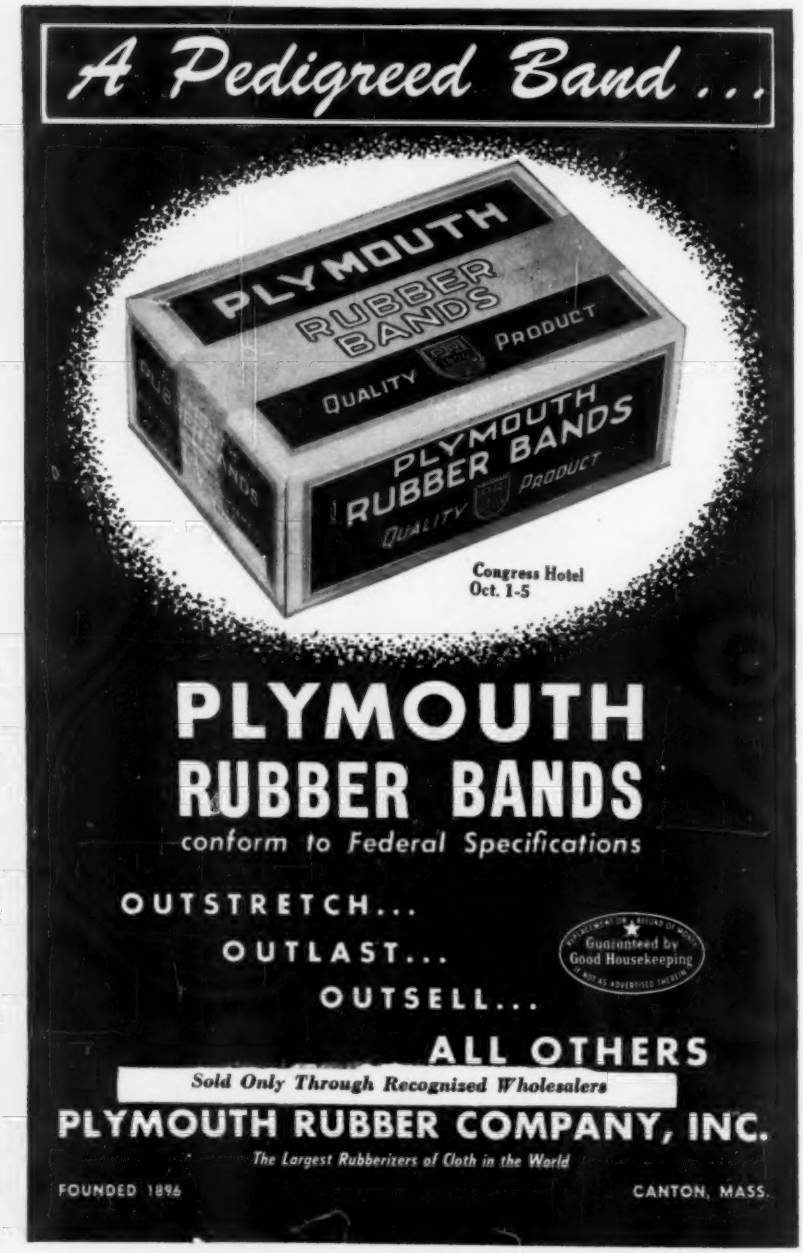
Systems objectives must be clear

Management must have a clear picture of the objectives of the program and of its scope, declared Mr. Neuschel. It must also understand the obstacles facing the program and must appreciate its own part in helping to meet them. Management, he said, must frankly discuss such questions as the function and authority of the staff. It is then essential to gain the confidence of the operating people.

One source of difficulty in working with supervisors, he said, is that since clerical personnel are often judged by the quality and speed of the service they render, they tend to overstaff in order to meet emergency situations without delay. Another is a lack of cost awareness—those who are aware of costs, he said, are likely to be perfectionists and are hard to convince that the work need not be done perfectly in order to be adequate.

The systems staff must find ways of meeting hostile attitudes, he said. Helping personnel to find out for themselves the benefits of a proposed scheme is one approach, but it takes time. Another is by application of discipline—a line official clearly explains the objectives he wants achieved. This approach recognizes the fact that people tend to concentrate on those phases of the job in which the boss himself is most interested.

Said Mr. Neuschel, management should state a certain specific savings goal in advance, then clearly fix re-



sponsibility for results, and, finally, give the supervisor some assurance with respect to his own position. It is particularly important, he added, to give those concerned a real sense of participation in the program, especially by the old trick of getting them to feel that much of the new system is a result of their own contributions.

Following Mr. Neuschel, Robert W. Johnson, of the Management Services staff in the Pittsburgh office of Touche, Niven, Bailey, and Smart, C.P.A.'s, spoke on "Application of Statistics to Business Systems."

Statistical methods can often do things more cheaply than electronic systems, reported Mr. Johnson. But it is important, he added, to use the method appropriate to the job, rather than try to fit the job to the method.

Two uses of statistical methods were mentioned: to predict the course of events, and to provide controls to see if a prescribed course is being followed.

Statistical methods can aid business

Statistical sampling can be used in many cases in which most of the items to be considered are reasonably similar in nature, in which considerable masses of data are involved, and in which less than 100 per cent accuracy is acceptable, according to the speaker.

Statistical methods, he observed, can be used to determine the size of sample required, the range of error that can be reasonably expected within the sample, and the degree of probability that the error will lie within that range.

An illustration was cited to show how statistical methods could be applied to business. In a particular accounts payable situation, it was found that since most of the invoice errors that hurt the company were on the larger invoices, checking of small invoices could be discontinued except for samples, while the large invoices were checked 100 per cent. The purpose of sampling the small invoices was not to determine particular errors, but rather to determine if the number of errors was remaining within acceptable limits, or in other words, whether the loss due to the errors was continuing to be smaller than the cost of checking for errors.

Other cases were cited in which statistical methods were used to simplify and reduce the cost of maintaining perpetual inventory records, to measure the cost of sales, and to determine the necessary reserve for bad debts in an accounts receivable situation.

Among the other papers presented during the conference were the following:

"Experience in Installing a Large Scale Electronic Computer," discussed by R. M. Gilmore, Jr., of the Chrysler Corp. Mr. Gilmore told of the planning for and installing of an IBM Type 702 computer.

"For Better Communication—Try Listening!", by Dr. Wesley Wiksell, of the Department of Speech, Louisiana State University. Dr. Wiksell defined listening as "hearing what is said, understanding what is said, and remembering what is said."

"The Human Equation in Organizational Planning," by Hugh A. Wichert, of the Central Organization Planning Staff, Chrysler Corp.

"Statistical Controls for Performance in the Office," by Alex L. Hart, professional statistical consultant and head of Alex L. Hart Associates.

"Cost Reduction Through Records Management," by John P. H. Dethman, Supervisor of the Records and Business Machines Section, Finance Staff, Ford Motor Co.

"The Job 'Shred-Out': A Management Simplification Procedure," by Dr. Roger M. Bellows, author and consultant.

"Yardsticks for Punched Card Applications," by Robert S. McLaren, Assistant to the Controller, Dravo Corp., Pittsburgh.

"Management Improvement Programs," by David A. Woellner, Manager of Systems and Procedures, Convair.

In addition to the general sessions papers and the seminars, the conference offered more than fifty exhibits of new business machines and equipment.

Charles E. Love dies

Charles E. Love, executive vice president and a member of the board of directors, Commercial Controls Corp., of Rochester, N. Y. died unexpectedly at his home in Brighton, N. Y., on Sept. 27. Mr. Love, who was 45, had been associated for a number of years with the International Business Machines Corp. before joining Commercial Controls in 1950.

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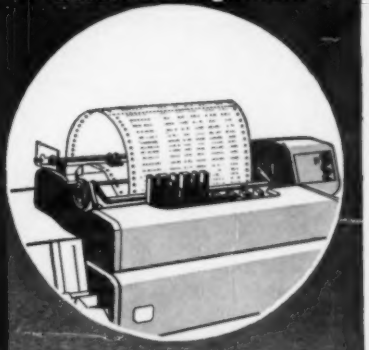

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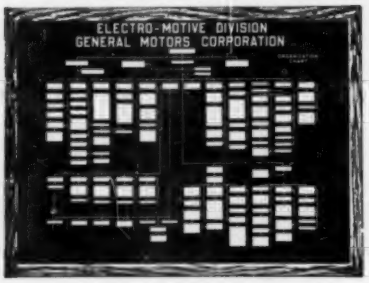

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AMA—

(*From page 26*)

the lack of proper media.

" 'Nobody tells me anything' is a common office complaint," he went on. "The key point on this matter of getting news and keeping your people informed is this: Occasions must be created—they can't be left to chance."

To help keep employees informed, he suggested forums, and informal "coffee break" discussions. One executive, he said, schedules a regular weekly appointment with each of his subordinates, in the subordinate's office.

A major problem from the employer's viewpoint is the feeling that his people are not interested enough in the company to put forward ideas and effort on its behalf. "Out of trying to understand people and their problems can come a return desire to want to understand—to want to cooperate," he said. "If people develop respect and understanding of the other fellow's feelings and attitudes, they have a basis for understanding and cooperation. This is the ultimate goal of communication."

Machine can make decisions

His company's experience with use of an electronic computer to make repetitive decisions about inventory has shown the "feasibility of producing dynamic and self-regulating business systems which produce detail decisions integrated from broad management decisions," Douglas A. Young, Meter Department, Westinghouse Electric Corp., Newark, N. J., reported in the first Tuesday afternoon speech.

The Westinghouse experiment with electronic inventory control had four main objectives, he declared:

1. To learn causes and reactions (for example, what would happen to individual inventory items if the borrowing rate of money, the shop load, customer buying patterns, or all of these together should change);

2. To make machinery do the work;

3. To develop decision-making instruments that would automatically and dynamically take into account the causes and reactions and adjust to give optimum results; and

4. To make use of modern high-speed and comprehensive office machines for creating decisions instead of merely making reports.

The high speed electronic computer, Mr. Young said, can make repetitive decisions exactly the way management tells it to make such decisions. "It will do so at almost unbelievable speeds, at high accuracy, tirelessly, and, what is probably most important, without emotion."

The system developed at Westinghouse, Mr. Young said, is practically continuous; it is dynamic in that it is at all times adjusting and balancing itself; and it finally produces, with few exceptions, definite decisions.

"The machine constantly records and checks all the things that are shipped to determine when conditions are right to put unstocked items in stock—all as a by-product of a fairly conventional system for making accounting analyses of costs and selling prices of individual shipments."

The machines also "continually examine the characteristics of each item, taking into account such factors as rate of usage, trend of usage, replenishment time, unit cost, and frequency of demands. For each item, the machines prepare a set of statistics to indicate what should and probably will happen in the near future."

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Perhaps the unique feature, he went on, is that the machines prepare this information in advance so that it stands waiting and ready for action when and if needed. "The machines waste a lot of their own time preparing for things that sometimes never happen. But because they prepare this information so rapidly and at such low cost, this apparent wastefulness is considered fully justified. The machines even prepare for emergencies; then if the emergency doesn't happen, they conveniently readjust to allow the overpreparedness to drain off and thus avoid inflation of inventories."

The final speaker on Tuesday, Alan O. Mann, coordinator, electronic office systems, SKF Industries, Philadelphia, predicted that instantaneous communications and electronic handling of information will be the next great step in the history of industrial evolution.

Citing as the three major achievements of industrial progress to date, mechanization, mass production, and scientific management, he said only the last had brought new developments in "the information that is constantly companion to the actions of things and people. Electronics promises a new dimension in dissemination of information," he said.

Present data inadequate

" Data used in business now are untimely due to lag and lapse; they are periodic although actual operations are not; and they are compartmentalized rather than unitized," he continued.

"They need to be integrated," he declared, and equally important, they must be in a form to provide the wherewithal for improved decisions.

"It is becoming increasingly evident," he continued, "from the recent work of a few advanced mathematicians and outstanding men from the fields of the pure sciences that present calculations are but a shoddy makeshift, a poor substitute for more effective computations that could be made for arriving at sounder decisions."

The problem can only be met, he asserted, by establishing a "complete two-way interconnection between every transaction point throughout the entire company so that every person in the system will have instantaneous communication two-way with every other person via one control center.

"We need to humanize the corporate mechanism so that corporate reactions can be as instantaneous as individual human ones, and diseases can be instantly felt and diagnosed," he declared.

SKF has developed such a communications plan, involving two comprehensive sets of equipment, a complete private line fully automatic switching system of teletypewriters across all company operations, and electronic storage and computational equipment for all data processing. The plan is not fully developed yet, but it is being achieved.

The operation, according to Mr. Mann, hinges on preparation of five channel common-language master tapes for self-perpetuation of all repetitive data derived from source documents. Teletypewriter equipment is used to create master tapes, source documents, by-product tapes, and documents for subsequent data processing operations.

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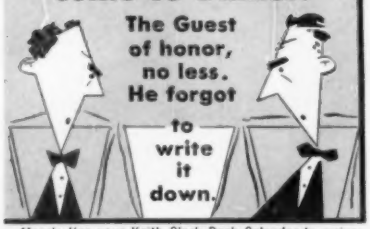

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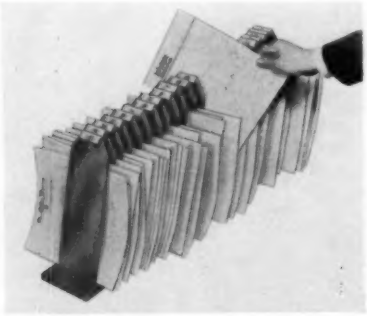

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switching system," Mann reported. "This system requires only that a proper two-letter code be perforated in the leading end of the tape that is fed into the transmitter of the teletypewriter. From that point on, the switching system takes over, and transmits all data automatically. Eventually, he predicted, SKF will have a "fully automatic, speedy, accurate, and complete handling of all primary data into and out of central electronic data processing equipment."

The Wednesday morning session opened with a talk by Elles M. Derby, Manager, Management Education Coordination Division, Metropolitan Life Insurance Co., on "The Office Manager—Carbon Copy or Creative Administrator."

The primary objective of management training is to identify those personnel who can and will think for themselves, he said. The goal should not be mere replacement.

"If you develop just for replacement, you are merely duplicating the present heads of bookkeeping, of filing, or of some other clerical unit," he said. "You are producing carbon copies of the present incumbent."

The real goal, he said, should be "original, dynamic, effective improvement. New ideas are the lifeblood of any organization."

His company, Mr. Derby said, favors formalized, centralized management development as distinct from "on the job training."

Warning that there were many personnel in every company who can never be trained for management leadership, Mr. Derby went on to say:

"In the make-up of every man and woman there are traits that fix the ceiling above which he cannot effectively rise. Let those who qualify have the opportunity, but don't waste time and money on those who cannot meet the standard after a reasonable time."

Three management qualities

He listed as essential basic qualities within an individual which make him a good candidate for management training, analytical ability, creative ability, and sales ability.

The Metropolitan program covers all levels of management from first-line supervisor through vice-presidents, and techniques used range from small conference groups of ten persons up to meetings of four or five hundred supervisors. The company tries to encourage thinking by the trainees so they can learn to meet situations by making their own decisions, as long as those decisions are made within the wide framework of general company policy.

"The payoff is in bringing out latent talent instead of producing carbon copies of ourselves," Derby concluded. "You can have a payoff of this nature if you set real objectives, a careful program of selection, and a program of education and training that seeks to capitalize the thinking ability many people are forced to waste."

The final discussion before the concluding luncheon was concerned with work sampling in the office, and the speakers were Jeremy Addoms, Supervising Industrial Engineer, and Frederick A. Long, Research Industrial Engineer, of the Atlantic Refining Co., Philadelphia.

Both speakers declared that sampling techniques are reliable and successful "when the conditions are right and the application is properly made." Their company first tried statistical

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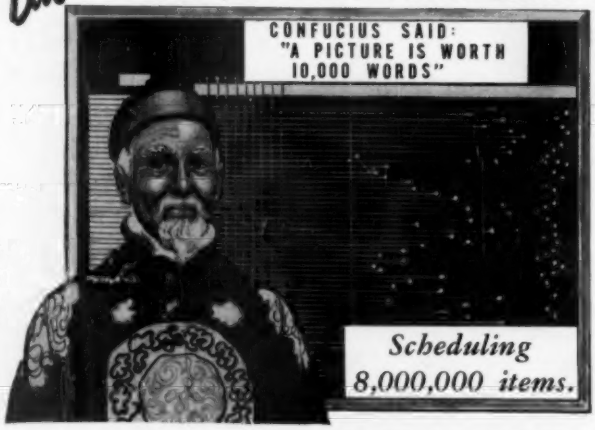

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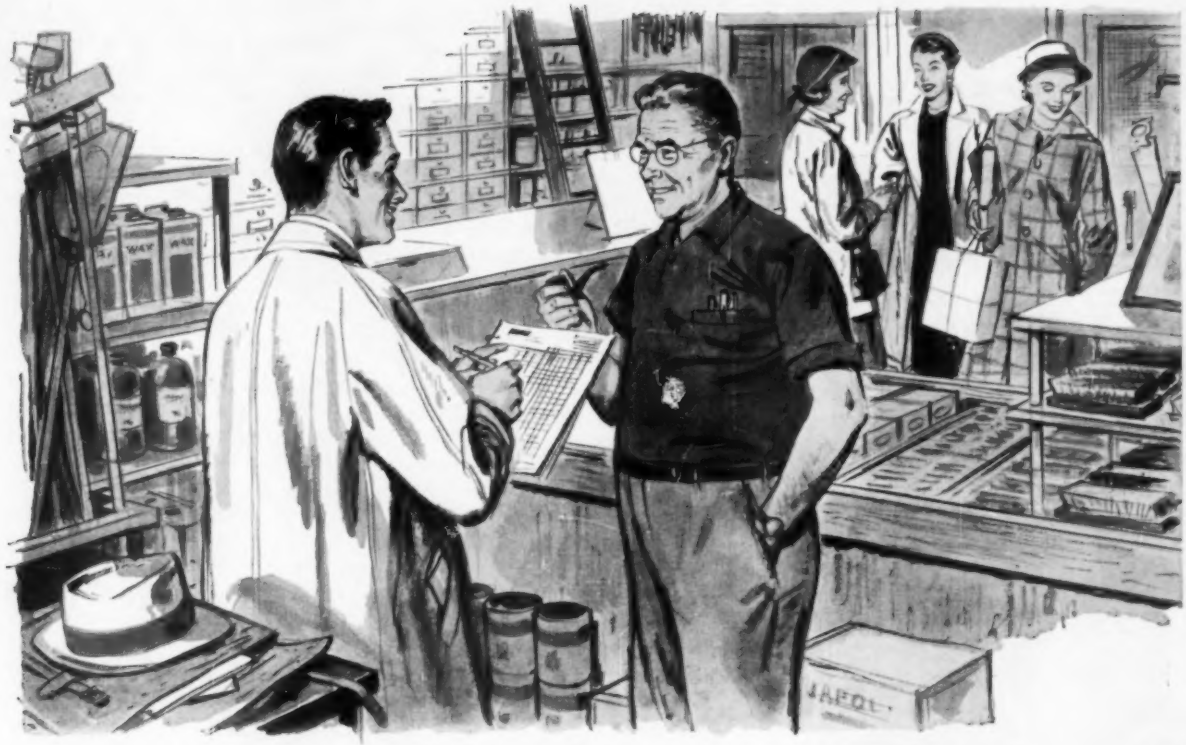

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sampling in an effort to establish time standards for typists who prepare customer invoices for mailing, they reported. The results obtained were accurate within the tolerences the company had established for conventional time standards.

"In fact," the speakers reported, "comparison of some of the time values with studies previously made indicated that those obtained from work sampling were actually considerably more reliable. The actual making of work sample observations required less effort on the part of the observer, resulted in more uniform observations from several observers, and reduced the need for interpretation of activities to a minimum."

Disadvantages of the technique stemmed from the time consumed in selection of random moments at which to take samples, and posting observation moments to observation sheets, according to the speakers.

This disadvantage was overcome by development of a method of selecting random moments for observation through the use of punched cards, reducing the preparation time needed from several hours to less than 30 minutes. Work was further reduced, they said, by having the printed sheets from the tabulating cards used directly as observation sheets, eliminating the need for posting to separate observation sheets.

Once this had been done, the speakers continued, the technique of work sampling met all objectives.

"It provided elemental time values for all persons engaged in an operation; it provided time values of sufficient accuracy to use as 'building blocks'; it reduced engineering time and cost; and it provided a minimum of interference with the work of operators."

Greater social responsibility urged

"Each management executive should accept the responsibility of meshing social responsibility with his responsibility for his company's profits," Saul M. Silverstein, president, Rogers Corporation, Rogers, Conn., declared at the luncheon session on Wednesday, October 19, which concluded the three-day conference.

Management collectively today is in a better position than any other group to make this a better world, he said, in criticizing the attitude of many businessmen who characterize socially responsible colleagues as "do-gooders."

Suggesting specific areas in which a change in traditional management thinking would be beneficial, Mr. Silverstein said:

"Let's be realistic about unions. There have been many abuses in unions, but isn't this equally true in the fields of medicine, religion, science, finance, and even in management. Unions are here to stay. If the majority of workers want a union, it is the responsibility of management to accept this decision without mental reservations. If the majority prefers to be without a union, so be it. Too many management people are still dedicating their lives to the destruction of an existing union, or are equally dedicated to preventing the formation of one, without regard to the wishes of their workers."

White collar unions are no more to be feared than traditional labor unions, he continued. "Sooner or later most of you will have to live with them whether you like it or not—so relax and enjoy it," he advised.

Management urged unionization

His company urged its white collar workers to organize, he declared, even though he was warned when he adopted this attitude that it would prove "disastrous."

"Both unions now force us to do a better management job," he reported. "It gets both blue and white on the team—the very essence of good management. Too many managers still don't realize that there is no correlation between literacy and intelligence."

He also urged that businessmen stop criticizing the government, and begin to assume "their share of responsibility for the community and nation."

"If our governments are not sound or fair, we have only ourselves to blame," he said. "Some of the severest critics of government performance are business leaders who are too busy to serve but never too busy to criticize those who are doing their best and need more support. If the individual thinks solely of himself, the state must assume and provide the necessary correctives."

The speaker did not spare "cynical people who have castigated workers at all levels for being too interested in security and, correspondingly, less interested in doing a fair day's work for a fair day's pay. Isn't it strange"

he asked, "that so many of these cynics have done so well for themselves in the area of valuable stock options and reasonably liberal retirement plans?"

Management people should stop feeling sorry for themselves, the speaker said in conclusion.

"It is true that management's responsibilities are great," he declared, "but they get paid accordingly. I have never known of a top management man whose burdens became so great that he swapped places with the worker. All too often those in management who feel most sorry for themselves are down to their third Cadillac and second cruiser. So let's stop kidding ourselves and cut out the double talk. It's still nice to be boss, with all his headaches."

Records control—

(*From page* 35)

2. Keeping others informed where unfinished or unfiled work is, so that during her absence others will know where to look for such records.

3. Preventing file cabinets from being used for storage of material unrelated to file records.

4. Checking matter being filed to be sure that titles are consistent with the folder in which she intends to place the record.

Much of the responsibility for a satisfactory records program rests with the file clerk. However, her success or failure in this respect is always dependent on the degree of co-operation that she receives from the creators, processors and stenographic groups. Since the others in turn must depend on her for the safe care of records and presentation of them as needed, they serve their own interests when they fulfill their respective responsibilities along the line of records flow.

There should be a coordinator of the records program in organizations that have a number of offices, to establish policies and procedures and to coordinate and supervise the efforts of all involved. Records programs do not operate on their own any more than other business programs. The coordinator should consult with management and other personnel to effect policies that:

1. Establish uniformity in records procedures in all offices.

2. Inform everyone of his part in the records control program and of the necessity for unreserved cooperation.

3. Stimulate an interest and desire on the part of everyone to reduce record volume and costs to a true level.

4. Centralize filing of important records to prevent some of them being at one point and others elsewhere. Eliminate jurisdictional privileges of any departments that tend to separate important records and prevent the full story being available in any one place.

5. Prevent mixing minor records, covering incidental details, with records that contain basic facts.

6. Establish the practice of the creating or originating office being responsible for long-period retention of its records, the source to which the other offices should go for the facts in the future. Eliminate the habit of matching record for record in a number of offices. While this does not imply that receiving offices should destroy records indiscriminately, conditions do change with time. There is always the possibility that earlier records may no longer be accurate. The source of the information is the point to which anyone should be permitted, as well as instructed, to go for the facts of today. This is especially so in respect to offices charged with the duty of disseminating specific types of information, as:

a. General offices which establish policies, prices, procedures and which have the corporate records as well as deeds, leases, contracts, etc. in their custody.

b. Laboratories which must retain vital and permanent records, including blueprints, reports, processes and other developments.

c. Factories which have the important manufacturing details, latest information on stock, and records on property, equipment, easements, rights of way and local government matters.

d. Warehouses which have some records similar to factories and others peculiar to warehouses only, such as inventories, facilities, property or rental matters, etc.

There should be a normal, healthy understanding between home offices, regional offices, laboratories, factories, warehouses and any other points to the effect that each office should be free to call upon any other for information of the type for which the second office is the original authority. All offices should be informed as to which of-

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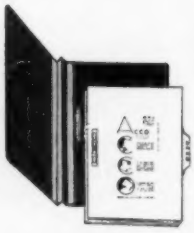

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fice is responsible for given records and so is required to hold them indefinitely. None should attempt to match file for file with an originating office. To do so is futile. The continuity of records in receiving offices is invariably broken and otherwise incomplete. The costs of such an attempt at matching files are all out of proportion to any local gain.

It is worth repeating that the persons benefiting most from a properly administered records program are the ones herein designated as having the greatest responsibilities—the creators and the processors of records. They are the users of the records and the ones who need them—not the secretaries, typists or filing personnel. Therefore, it is imperative that they understand and accept their responsibilities. By doing so they help themselves.

Business continues to move forward at all times, but not all of its forces equally. Unfortunately, records control has been given minor consideration in the past and permitted to fall behind the advances in other procedures. Records control begins at one place and time only, when and where the record is created. It continues, however, right down the line with processing, stenographic, and filing personnnel. Above all things, business must recognize that records control does not start in the filing department or record center. Nor can it be solved by forms control methods alone. Forms account for only a small portion of records in many offices.

Reports—

(*From page* 31)

ones when it came to sending out useless paper.

In other cases, men were nosy. Like the child who didn't want to go to bed, they were afraid they'd miss something. They wanted to know what was going on all over the place. They *asked* to be put on several dozen report lists.

The sender, in such cases, could only assume that the man who asked for a copy of the report found the information useful in his work.

Still other people who received the reports wanted them "because we *might* need them someday." Like squirrels in the tree, they wanted to store their information acorns against

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Kelly wondered where these reports finally wound up. Were they destroyed? In one case he found that every copy of a weekly report that was sent to seven department managers wound up in "archives", or dead storage. He found that in one year there were 364 papers going into storage that weren't merely duplicates of each other—they duplicated each other seven times.

Other reports remained in "current files" for up to three years. In the meantime the company had to buy new file cabinets at $75.00 each to provide space.

In one other case, a daily report copy was kept in a binder. When Kelly visited the girl who filed the reports, he found 15 expensive binders on a shelf behind her. He also found that the girl's boss had never once called for the report after he gave it to her to file. She had three years' accumulation in the binders.

Manager Peterson had instructed Kelly to "sample" the reports situation. He didn't consider it necessary to find out the exact cost of each report.

Peterson merely wanted enough facts to indicate whether his executives were paper-happy or whether they were using paper as it should be used—as a control mechanism.

Kelly summarized his findings for his boss as follows:

"If the 475 (824 issues) reports turned out each month cost as much as the average of the sample reports studied in detail, we can conclude that reports cost the company $23,963.75 per month. This is a cost of $287,565 per year! About 1 per cent of the sales volume.

Reports cost 95,844 hours a year

"Reports consumed about 7,987 working hours a month, or 95,844 hours per year.

"This all adds up to a working force of about 44 people working full time on nothing but reports."

As striking as was Kelly's summary, we can draw conclusions. We can ask these questions about reports.

Perhaps one per cent of the sales volume isn't too much to pay for reports. But shouldn't those reports be *good* ones—timely reports which an executive can act upon? Shouldn't they be reports which are readily understandable?

In Kelly's study less than 10 per cent of the reports met those standards. All reports absorbed precious executive time. An executive is just about forced to look over every paper that somebody shoots into his office. Until he does look at it, he isn't sure whether the information affects his operation or not. Was this time well spent?

So the executive must take the time to sift the significant from the useless.

These were just some of the problems that manager Peterson found when he asked for a study on reports.

Reports are costly to prepare. Many reports are useless. Reports absorb much executive time. Executives don't need more reports, they need better reports—and fewer reports.

The management group as a whole —most of the supervisors—were not thinking through their report requirements. They weren't considering what they needed, nor what their bosses needed to know. What was needed was an education for the supervisor—some way of getting fewer reports and better reports with less effort.

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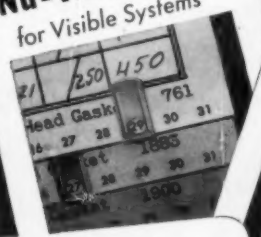

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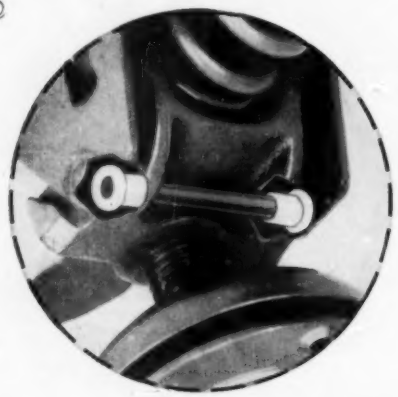

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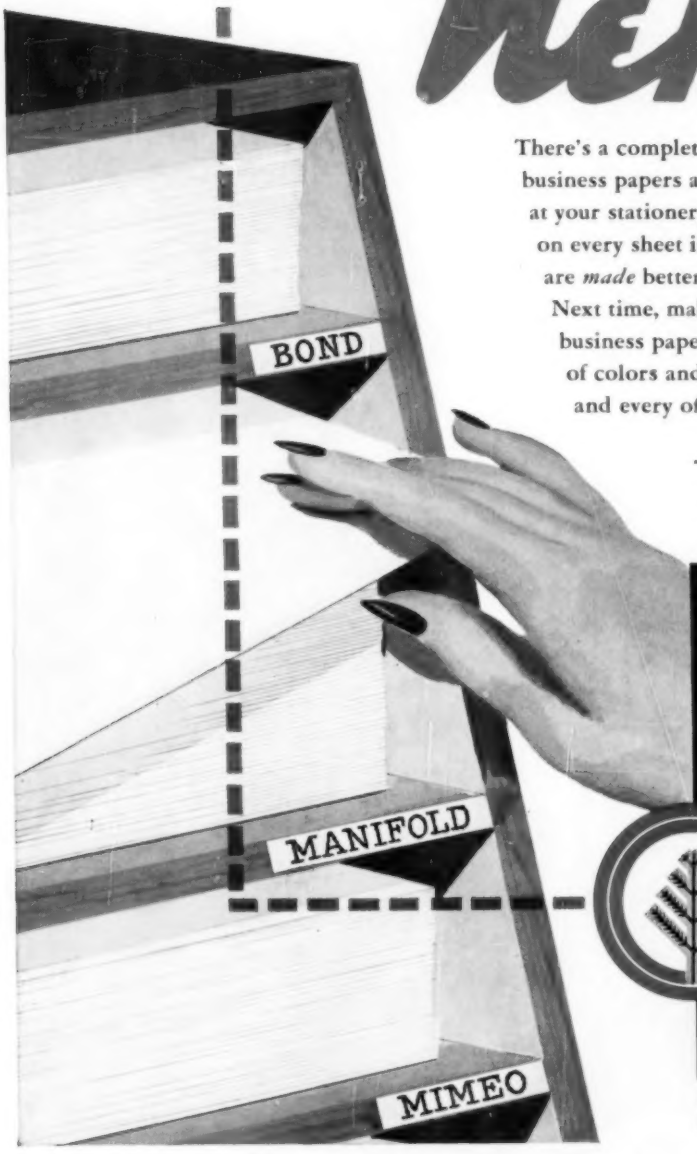

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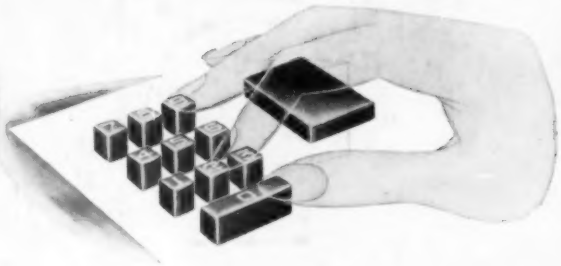

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